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## **An evaluation of a workshop on pain assessment and management for nurses**

Beverley Bradshaw  
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**AN EVALUATION OF A WORKSHOP  
ON  
PAIN ASSESSMENT AND MANAGEMENT FOR NURSES**

**BY**

**Beverley Bradshaw**

**A Thesis Submitted in Partial Fulfilment of the Requirements  
for the Award of**

**Master of Nursing  
at the School of Nursing, Edith Cowan University.**

**Date of Submission: 23 September 1993**

## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

## **ABSTRACT**

The purpose of this study was to assess nurses' knowledge of pain assessment and management, examine what change occurred immediately following a pain assessment and management workshop and examine whether any changes were retained one month later. Chin and Benne's theory of change provided the theoretical framework for this study. Their approach to planned change involves assessing the existing structure, formulating and implementing a plan to change that structure, then evaluating the change.

The following hypothesis was formulated for investigation: That nurses' knowledge of pain assessment and management would increase after a workshop on the subject and be retained over one month. Based on the assumption that nurses' demographic characteristics can influence their styles of learning and ability to disseminate knowledge, this study also examined whether changes in nurses' knowledge were related to their demographic characteristics. To analyse this, the following were examined in relation to nurses' knowledge of pain assessment and management: age, years of nursing experience, area of employment, level of practice, level of education, and previous education in pain management.

The design for this study was a one-group pretest-posttest-follow-up design. The subjects were 67 Registered and State Enrolled Nurses from country hospitals in Western Australia, involved in direct patient care, who voluntarily

attended a pain assessment and management workshop. A questionnaire was adapted by the researcher and an expert nurse to measure nurses' knowledge. The results of the study support the main hypothesis that the workshop significantly increased nurses' pain assessment and management knowledge ( $p < .001$ ), and that this knowledge was retained one month later. The remaining hypotheses related to demographic characteristics were not supported by this study ( $p > .05$ ) with the following exceptions: Level Two Clinical Nurses (CNs) had more knowledge on the pretest, gained and retained more knowledge on the posttest and follow-up test than State Enrolled Nurses (ENs). Level One Registered Nurses (RNs) retained more knowledge on the follow-up test than ENs.

In this study, each item on the questionnaire was analysed for each test. The value of this analysis was that it served to highlight where there was acceptance of or resistance to change in nurses' knowledge of pain assessment and management.

Although generalisation of these results is inappropriate due to the convenience sample used, they support the opinion that a one day educational workshop can improve nurses' knowledge of pain assessment and management, and embrace the need for continued education related to this subject. An implication for nursing practice is that when nurses are prepared to learn new knowledge and change outdated concepts with the aim of improving patient care, this knowledge can be gained in relatively short courses of study.

## **DECLARATION**

**"I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in text".**

**Beverley Bradshaw**

**230993**

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## **CHAPTER ONE**

### **INTRODUCTION**

This study was conducted to examine whether nurses' knowledge changed after a workshop on pain assessment and management. The workshop was presented by the researcher, on four separate occasions, at two country hospitals in Western Australia. The design of this research was a one-group pretest-posttest-follow-up design using a survey for data collection.

The criterion for participant acceptance into this study was that participants be Registered (RNs) or State Enrolled Nurses (ENs) residing in Western Australia. The aim of the workshop was to positively change nurses' knowledge of pain assessment and management. Based on the analysis and interpretation of the data related to this study, recommendations are made in order to provide guidance for future education strategies.

This study was guided by a theory of change. Chin and Benne (1969) postulated that people are rational and that they will adopt change if it is rationally justified and when they perceive some gain is to be made by making the change. It can be either planned or unplanned. According to Burkman (1988), unplanned change can be unpredictable and uncontrolled, and may have negative results. Planned change, however, is a deliberate and collaborative process that sets goals and defines how they can be achieved (Brooten, Haymen & Naylor, 1988). Chin and Benne (1969) planned change



by assessing the existing structure, formulating a plan to revise the existing structure, implementing a plan, then evaluating success in creating something new or different. Chin and Benne emphasised three strategies in their change theory. Two of the three strategies were chosen for this study; the rational-empirical and normative-reeducative strategies for change. The third, the power-coercive strategy was not considered suitable for this study because it provides information using an autocratic style that can and often does result in divisiveness and polarisation (Chin & Benne, 1969).

Planned change in pain education is required to aid nurses in the unlearning of outmoded beliefs and/or poor attitudes, and to teach ways to review methods or thinking related to pain assessment and management. The workshop on pain assessment and management was therefore aimed at effecting change in the knowledge base of nurses involved in direct patient care. This knowledge would provide nurses with strategies they could use to address the problem of patients' pain. Thus, planned change is a complex intervention that requires the conscious use of knowledge as an instrument or tool for the modification of patterns and institutions of practice (Chin and Benne, 1969).

### **Background**

Pain is a sensation that most people try to avoid, but unfortunately it has been identified as a common experience associated with many diseases and conditions. Pain is a complex, subjective experience that is difficult to

measure. The aetiology of pain is not always understood, and the relief of pain is frequently not achieved (Watt-Watson, 1987). When a patient\* is in pain, much energy is focused on that pain, anxiety is increased and the healing process is impeded. Pain may also be the reason why some patients take inadequate food and fluid, have nausea, extreme fatigue and refuse to ambulate (Conzad, 1990). Therefore, it is vital for the ultimate health and well-being of patients in pain, that their pain be assessed and managed effectively (Conzad, 1990). This, according to Walker and Campbell (1988) should be a priority within nursing. Liebeskind and Melzack (1987) believe that "freedom from pain should be a basic human right", and this freedom, is limited only by the health professionals' knowledge needed to achieve it (p. 1). Educational programs for health professionals must be developed to answer the enormous problem of poorly managed pain (Liebeskind & Melzack, 1987).

In 1988, the National Health and Medical Research Council reported that severe pain is one of Australia's costliest health problems, both in terms of human suffering and health care finance. The financial impact of pain in Australia, was predicted to reach \$30 billion by 1990 (Gross, 1986, in Presley & Cousins, 1992). Relevant data to upgrade this figure is currently unavailable (P. F. Gross, personal communication, July 6, 1992). As well as this, pain management in Australia has been reported to be inadequate and requiring changes in pain education, training, knowledge, attitudes and practices of medical, nursing and allied health professionals (National Health and Medical Research Council, 1988). More recently Romyn (1992), in

\*The term patient is used in this study for consistency of style for client/patient.

Canada, reported that both physicians and nurses did not individualise pain regimes for patients, lacked knowledge about which drugs potentiate analgesic effects, and were not aware of harmful interactions between analgesics and other drugs. When the analgesic drug or route was changed they did not know how to adjust the doses to achieve the desired effect (Romyn, 1992). Health professionals may also be unaware of many useful alternative therapies to relieve pain and may also be unskilled in using them (Liebeskind & Melzack, 1987).

Reasons given in the literature for mismanagement of patients' pain are that: nurses are poorly educated in and that educational programs are deficient on information about pain and its management (Beare & Myers, 1990; McCaffery & Beebe, 1989); nurses, and other health professionals, have poor communication skills and detrimental attitudes (Bean, 1988); there is a propensity to cling to outmoded beliefs, misconceptions and biases such as fears of addiction and respiratory depression (Beare & Myers, 1990; McCaffery & Beebe, 1989; Watt-Watson, 1987). In the past, nurses have not treated pain as a high priority, nor have they set a goal of total pain relief for patients in pain (Donovan & Dillon, 1987; Rankin & Snider, 1984; Watt-Watson, 1987).

McCaffery and Beebe (1989) emphasised the need for education and re-education of nurses because many have had no formal education about nursing people in pain and much of what was taught in the past is now recognised as inappropriate or even wrong. If nurses are not informed about

recent research and current theory related to pain and its management, the status-quo of ill-founded myths and incongruent values and beliefs will continue to be perpetuated (Sofaer, 1985). It can be difficult to reeducate nurses about pain assessment and management when new information contradicts their beliefs and is contrary to what they are currently doing in nursing practice (McCaffery & Beebe, 1989). It is therefore important that information related to pain assessment and management be disseminated to health professionals so that pain control can be recognised as a priority in all health care facilities (McCaffery & Beebe, 1989). In 1992, McCaffery conducted workshops in Australia on pain management and concluded that aggressive educational efforts needed to be implemented for Australian nurses (McCaffery & Ferrell, 1992).

Today, there are many books, research studies and journal articles on the subject of pain (McCaffery & Beebe, 1989). Compared to the large and ever-growing nursing research literature related to pain, there is only one American study in the published literature which investigated nurses' pain knowledge before and after education (Myers, 1985), with no such Australian studies available. The proposed study resulted from the researcher's observation in clinical practice that nurses in Western Australia appeared to lack knowledge about pain and its management, and in particular pain assessment, analgesic administration, and alternative methods of pain control.

### **Significance of the Study**

From the current literature it was ascertained that education is a key to providing nurses with the necessary knowledge and facts so that they can change clinical nursing practice strategies to provide quality pain assessment and management for patients in pain (Beare & Myers, 1990; Dalton, 1989; McCaffery & Beebe, 1989; Myers, 1985; Sofaer, 1985; Watt-Watson, 1987).

The responsibility for pain relief rests with the entire health team and the key people involved are usually the patient, nurses, pharmacist and doctors. It is the nurse who is with the patient in pain more than any other health team member, and it is the nurse who is in a position to constantly assess and manage patients' pain (McCaffery & Beebe, 1989). Thus, the nurse has unique opportunities to contribute to the management of patients' pain (Bean, 1988).

Nurses must demonstrate competency throughout their professional life by learning an array of ever-changing analgesic and adjuvant drugs for pain management. Nurses must also be able to demonstrate a basic knowledge of the pharmacology related to analgesic administration (Copp, 1993). Therefore, this study was guided by the following question: *What knowledge do nurses have of pain assessment, analgesic administration and alternative methods of pain control, before and after a pain management workshop?*

## **Purpose**

Nurses are frequently confronted with patients in pain and in order to relieve this nurses must possess pain assessment and management knowledge. The nurses in this study provide direct patient care in diverse nursing units in Western Australian country hospitals. The purpose of this study is to assess nurses' knowledge of pain assessment and management, examine what change occurs immediately following a pain assessment and management workshop and examine whether any changes were retained one month later. The education provided by this workshop is intended to equip nurses with the knowledge needed to put effective pain assessment and management strategies into practice. This, in turn, will benefit patients as they are more likely to be accurately assessed when they say they have pain. Ideally patients' pain should be relieved by therapies best suited to the individual, culminating in a more comfortable and speedy recovery or a more peaceful, pain free death. Also, when alternative methods of pain relief are used, patients may require less analgesia.

It is hoped that this study will highlight areas of strength and weakness in pain assessment and management among nurses. It will benefit nursing management and staff development nurses by helping them to determine educational needs of colleagues regarding pain assessment and management.

### **Hypotheses**

This study will be conducted to test the following hypothesis: That nurses' knowledge of pain assessment and management would increase after a pain assessment and management workshop and be retained over a period of one month.

Adults may be more resistant to change because of established patterns of behaviour (Van Hoozer, 1987). Thus, many variables influence a person's learning. Hence, this study examined whether changes in nurses' knowledge of pain assessment and management are related to their demographic characteristics.

Therefore it was also hypothesised that there is a relationship between:

- H1. Nurses' age and nurses' knowledge of pain assessment and management
- H2. Years of nursing experience and nurses' knowledge of pain assessment and management
- H3. Nurses' area of employment and nurses' knowledge of pain assessment and management

- H4. Nurses' level of practice and nurses' knowledge of pain assessment and management
- H5. Nurses' level of education and nurses' knowledge of pain assessment and management
- H6. Nurses' previous education in pain management and nurses' knowledge of pain assessment and management.

### **Definition of Terms**

The conceptual and operational definitions for this study are as follows:

**Pain** is a symptom that initially arises in response to an injury or noxious stimuli and may persist after the injury has healed. "Pain is whatever the experiencing person says it is, existing whenever the experiencing person says it does" (McCaffery, 1968, in McCaffery & Beebe, 1989, p. 7).

**Pain assessment** is the critical analysis and evaluation or judgement of the intensity and quality of pain and includes the classification of acute or chronic pain to establish treatment objectives, i.e. analgesia and alternative methods of pain control.



Pain management is the alleviation or control of pain by nurses who have assessed the patient's need and administered the most appropriate intervention, i.e. analgesia and/or alternative methods of pain control.

Workshop is a formal teaching strategy where a group meets to exchange ideas, study techniques and skills related to pain assessment and management, and achieve the objectives presented by the change agent.

Analgesic administration is the use of narcotic and non-narcotic drugs to relieve pain.

Narcotics are drugs of addiction, so classified by the Eighth Schedule of the Poisons Act. Narcotics are centrally acting pain relieving medications which are also potentially addictive.

Alternative methods of pain control refer to heat and cold applications, transcutaneous electrical nerve stimulation (TENS), massage, guided imagery, therapeutic touch, relaxation, and distraction.

Knowledge is factual material possessed by the respondent in regard to pain assessment, analgesic administration and alternative methods of pain control.

Subjectivity of pain means that the pain is perceived only by the person in pain and not by the person assessing the pain. Because pain is subjective, there are no precise measures for the sensation of pain.

Demographic Characteristics in this study refers to nurses' age, years of nursing experience, level of practice (e.g. Level Two Clinical Nurse (CN); Level One Registered Nurse (RN); and State Enrolled Nurse (EN)), level of education, and previous education in pain management.

Area of employment is the different areas in which nurses are employed, for example: surgical, medical, community health.

The following nursing classifications are derived from the Western Australian Career Structure (Health Department of Western Australia, 1987).

Community Nurse is a nurse registered with the Western Australian Nurses Board and working in a community health centre or with the Silver Chain Nursing Association. Community nurses are classified as Level Two in the Western Australian nurses career structure.

Level One Registered Nurse (RN) is a nurse registered with the Western Australian Nurses Board, and in his/her first year or more of practice or a registered nurse returning to the work-force after a period of absence.

Level Two Clinical Nurse (CN) is a nurse registered with the Western Australian Nurses Board, with three or more years experience who has gained the necessary clinical skills for the position. Selection and appointment to this position is based on merit, i.e. the best person who applied for the position.

Level Two Staff Development Nurse is a nurse registered with the Western Australian Nurses Board, with three or more years experience who has gained the necessary clinical and teaching skills for the position. Selection and appointment to this position is based on merit, i.e. the best person who applied for the position.

Level Three Clinical Nurse Specialist is a nurse registered with the Western Australian Nurses Board, with five or more years experience who has gained the necessary clinical skills for the position. Selection and appointment to this position is based on merit, i.e. the best person who applied for the position.

State Enrolled Nurse (EN) is a nurse registered with the Western Australian Nurses Board and practising under the guidance of registered nurses.

### **Organisation of the Thesis**

Chapter One provides an introduction to the purpose of this study, its hypotheses, and definition of terms. Chapter Two examines the pertinent literature related to the study problem.

Chapter Three discusses Chin and Benne's (1969) theory of change which is the theoretical framework that underpins this study. Chapter Four deals with the methodology used for this study. This chapter discusses the setting and sample for this study, the design, the questionnaire used to examine nurses' pain assessment and management knowledge, its reliability, validity and pilot

test. Also included in this chapter are the procedures, assumptions, ethical considerations and methodological limitations which underpin this study.

Chapter Five reports the findings of the investigation and Chapter Six discusses the findings and relates them to other research. Included in Chapter Six are the conclusions for the study with implications for nursing practice, recommendations and further research.

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

#### **Introduction**

A review of the literature pertinent to this study includes an overview of nurses' pain assessment and management knowledge and the effects education had on that knowledge. Initially, nurses' pain assessment and management knowledge are reviewed, followed by misconceptions that affect pain management. The next sections discuss nurses' knowledge of tools for pain assessment, and nurses' characteristics such as age and educational level related to knowledge. Methods used to educate nurses about pain management are then reviewed followed by literature on methodology that includes the purpose of education and evaluation, nursing evaluation, approaches to evaluation, and retention of knowledge.

#### **Nurses' Pain Assessment and Management Knowledge**

Saxey (1986) conducted a study about post-operative analgesic usage that involved patients, student nurses and registered nurses in a District General Hospital in England. A semi-structured interview was used to collect data from 35 nurses about their postoperative pain knowledge. Saxey reported that nurses' knowledge of narcotic analgesia was poor and that 27 nurses (11 registered and 16 students) were unable to explain the mechanism of

action of narcotic drugs. Forty percent of participants stated that the goal of postoperative analgesia should be complete pain relief, while 60% did not believe complete pain relief was possible. Nurses also believed that pain after surgery was inevitable, however, assessment of pain occurred mainly when patients reported pain. Only a small number of nurses mentioned interventions such as distraction, heat, cold or massage for relieving pain. They attached greater importance to analgesic administration than to alternative therapies. Of those interviewed, 47% suggested administration of more analgesia for improving postoperative pain control, 37% suggested increased staffing levels, 31% suggested better communication between patients, nurses and doctors, and 23% suggested improved education for nurses. The sample size for this study was small, however, the findings that nurses lacked knowledge of pain assessment and management, support other studies.

Donovan, Dillon and McGuire (1987) examined the prevalence of pain in hospitalised patients on four medical and four surgical units in Chicago. They interviewed a random sample of 358 patients about their levels of pain, audited the patients' charts to ascertain the amount of medication prescribed and consumed, and reviewed the charts to see if pain was documented as a problem by nurses. More than 72% of patients reported experiencing pain within 72 hours of the interview and 58% reported experiencing excruciating or horrible pain some time during their hospitalisation. Also, 55% of patients in pain could not recall having a nurse ask them about their pain and only 31% had anything documented about their pain on their chart. This study

confirmed that pain management has not improved significantly since a study by Marks and Sachar in 1973. In this now classic study, Marks and Sachar (1973) identified unrelieved moderate pain, undertreatment with narcotic analgesia, and inaccurate information about analgesics as significant problems impeding on quality patient care. Donovan et al. (1987) concluded in their study that nurses' and doctors' lacked knowledge of the pharmacology of analgesia and they inadequately assessed pain which contributed to the undertreatment of patients in pain. This study and others confirm that nurses' lack knowledge of pain assessment and management.

Seers (1987) interviewed 80 patients before abdominal surgery, and then twice daily for seven days after surgery, on three wards of a London hospital. Twenty-eight nurses from the three wards completed a questionnaire about various aspects of postoperative pain relief. Reliability and validity were not reported. Seers noted that pain was often recorded on the nursing care plan as a potential problem, but suggested that nurses did not systematically assess pain nor the effectiveness of pain relief measures. Seers stated that nurses consistently under-estimated the intensity of patients' pain and nurses' attitudes towards narcotic analgesia and their methods of administering analgesia, contributed to less than ideal pain relief. In summary, Seers (1987) stated that an enormous potential existed for nurses to improve their pain management skills, and that each nurse must take responsibility for assessing and managing pain and for documenting this. The sample size for this study was small, however, these results support previous findings that nurses' under-estimated pain, lacked knowledge of analgesics and needed to improve their pain management skills.

Owen, McMillan and Rogowski (1990) surveyed patients, pre and postoperatively, about their expectations and experiences of pain. The study was undertaken in a medical centre in South Australia over a two month period. All adult patients admitted for elective surgery, who were expected to remain in hospital for more than 48 hours postoperatively, were considered eligible for this study. Two-hundred and fifty-nine patients were asked to complete three questionnaires; the first preoperatively, the second 24 hours postoperatively and the third 72 hours postoperatively. The survey incorporated a pain rating scale for patients, ranging from mild, moderate, severe, and unbearable pain. At each postoperative visit, the method of pain therapy prescribed and frequency of analgesic administration was recorded. This study revealed that few patients expected little or no pain, most wanted effective analgesia, and that the majority of patients would wait until they had severe pain before asking for pain relief, then expected it to be administered promptly. Seventy-seven percent of patients were prescribed "on demand" (PRN) analgesia with a stipulated interval between injections of 3 to 4 hours for both morphine and pethidine (p. 304). The mean rate of administration for both morphine and pethidine was 2.7 injections in the first 24 hours postoperatively, with a dose range of 0 to 60 mg of morphine and 0 to 775 mg of pethidine. During the postoperative period, one quarter of the patients had effective pain control while more than half of them had pain for most or all of the time. When morphine or pethidine was given, patients generally reported that their pain was relieved. This survey confirmed that pain control after surgery continues to be a problem for both patients and nursing staff. Owen et al. stated that even though there was a growth in knowledge about pain and analgesics, this knowledge had not advanced clinical practice.



### **Nurses' Misconceptions that Affect Pain Management**

Lander (1990) assessed common misconceptions about pain management among general staff nurses from eight medical, surgical and paediatric wards of a general hospital in Alberta, Canada. One-hundred and nineteen nurses were mailed a survey about pain management, and 63 (53%) responded. A further 80 nurses were sent a clinical case survey package, and 42 (53%) responded. Content validity was reported for the questionnaire. The results of the pain management survey indicated an existence of a number of misconceptions about pain and pain management within an acute care setting. Almost all of the nurses considered that narcotic addiction was likely to occur with regular short-term administration of narcotics and nurses believed that their assessments and observations accurately indicated pain. The amount of nursing experience of participants was not found to be correlated with pain misconceptions studied. Results from the clinical case indicated that when nurses believed the patient was addicted to narcotic analgesia, they employed strategies to control the patient's analgesic intake. Strategies employed by nurses in this study were: reducing the dose and amount of analgesia, and appealing to the doctor to rescind the narcotic order (Lander, 1990). These findings support previous reported results that nurses' misconceptions hamper their pain management skills.

McCaffery, Ferrell, O'Neil-Page and Lester (1990) analysed data obtained from a series of workshops, in the United States of America and Canada, on pharmacological pain management. Data for this study were collected from

pretests prior to a series of workshops conducted by McCaffery. The study sample included 20 basic workshops with 1,105 participants (44.9%), and seven advanced workshops with 1,354 participants (55.1%). Demographic data were not collected for this sample. The majority of workshop attendees were registered nurses, and it was assumed they represented nurses motivated to increase their knowledge and interested in pain management. The questionnaire used for this study consisted of two sections. The first section assessed knowledge of drugs by asking participants to stipulate, from seven drugs, which were narcotic and which were nonnarcotic. The second section consisted of a single item asking participants to identify the frequency of addiction, by percent, in patients treated with narcotics. The questionnaire was designed as a simple pretest measure, it was not a well-established research instrument. Since the pretest, McCaffery has revised the questionnaire to facilitate future research, and it is being tested for reliability and validity. Knowledge of the frequency of drug addiction reflected that less than 25% of participants knew that less than 1% of patients receiving narcotic analgesia become addicted. The majority of participants judged that frequency of addiction was in the lower percentages, but 21.6% of the participants believed that addiction occurred in 25% or more of patients receiving narcotic analgesia. Results showed a tendency for participants to identify milder analgesic drugs as nonnarcotic (McCaffery et al., 1990).

McCaffery and Ferrell (1991a, 1991b, 1992a, 1992b) presented vignettes to nurses at four pain-control workshops in cities of the United States of America. The purposes of the workshops were: to educate nurses; to explore nurses'

decisions on pain assessment and medication choices; to evaluate nurses' concerns about opioids; to find out if nurses respond to patients' vital signs or to patients' pain ratings; and to find out if nurses' felt that men responded differently to pain than women. Four hundred and fifty-six nurses completed the first survey, 359 the second, 166 the third and 362 completed the fourth survey. From the surveys the researchers concluded that: a patient's behaviour strongly influenced a nurse's acceptance of the patient's pain rating and the administration of a higher dose of an opioid; nurses were influenced by a patient's age when assessing pain; nurses were influenced by the differences in vital signs and not by the pain rating of the patients; and nurses felt that men would respond differently to pain than women.

McCaffery surveyed 613 nurses in seven cities in Australia, using a pretest (McCaffery & Ferrell, 1992). Nurses voluntarily participated in pain education workshops. The majority of participants (over 90%) were registered nurses. The purpose of the survey was to determine the current knowledge base of registered nurses, and other health care givers, regarding the likelihood of narcotic addiction when narcotics were used for pain control. Forty-five percent of participants knew that the correct addiction rate was less than 1%. Thirty-three percent answered 5% addiction rate, and 22% answered 25% or greater, which demonstrated that these participants had an exaggerated fear of addiction. McCaffery and Ferrell (1992) compared the Australian findings with the combined findings from the previously mentioned American and Canadian surveys. In the American and Canadian surveys 41% of participants knew the correct answer was less than 1%, 27% of participants

answered 5%, and 32% of participants answered 25% or greater. This comparison showed that fewer Australian participants have an exaggerated fear of addiction. However, McCaffery and Ferrell suggested aggressive educational efforts are needed in Australia to reduce the number of nurses who have an exaggerated fear of addiction. Formal classes, workshops and clinical conferences on pain assessment and management were also recommended by Graffam (1990). She is of the opinion that "nurses who lack knowledge and hold misconceptions about pain will contribute more to the problem than to its solution" (p. 20). These studies provide valuable information about the misconceptions that hamper nurses' pain assessment and management knowledge resulting in the use of inadequate nursing techniques for managing patients' pain.

### **Nurses' Knowledge of Pain Assessment Tools**

Bagley, Falinski, Garnizo and Hooker (1982) conducted a pilot project on a 14 bed oncology unit in the United States of America. The purpose of this study was to determine how the assessment of pain, as documented by nurses, affected subsequent nursing interventions in cancer patients. The staff in this project met on several occasions to identify their deficits in pain management and to formulate an admission form for documenting a pain history. As a result of those discussions, four one hour educational sessions were implemented to cover pertinent pain topics such as: mechanisms of pain, current management methodologies, pain assessment, and planning and evaluating an individual pain management regime. Ten patients' charts were

retrospectively surveyed. Results revealed that pertinent admission history data were missing from patients' charts and that nurses did not consistently utilise the forms for documenting pain assessments or for noting the patient's response to medication. As part of the evaluation process, Bagley et al. discussed the results of their research with the nurses involved in the study. Conclusions drawn from those discussions revealed that although nurses used a decision making process before proceeding with pain treatment such as titrating analgesia, they did not accurately record those treatments. Bagley et al. stated that there was insufficient time for staff to fill out additional forms, insufficient support for the staff during the pilot project, no specific guidelines for nurses to make decision about titration of analgesia, and subjective data from the patient was not used by nurses to assist them manage patients' pain. Bagley et al. (1982) stated that although the pilot study was conducted in an area that focussed on patient care and not research, it lends support for education for nurses. This study did not state how many nurses worked on the unit, however, it supports findings from previous studies that nurses do not document their pain findings.

Berker and Hughes (1990) distributed questionnaires to 11 registered nurses on a coronary care unit in Birmingham, England, three months after implementation of a pain assessment tool. All questionnaires were returned. The pain assessment tool included a 0 to 10 rating scale. The tool was discussed by nurses prior to its implementation on the unit. Nurses stated that using a pain assessment tool resulted in improved patient care, improved relationships and heightened empathy with patients. However, Berker and

Hughes reported that nurses overestimated patients' pain and were unclear about the effects of analgesia. Although the sample size was small, the implications are that pain assessment tools improve patient care by providing objective measures of patients' pain. It was reported by the authors that the use of such tools was not common nursing practice.

Dobratz, Wade, Herbst and Ryndes (1991) studied, by retrospective chart review, 30 home hospice patients in the United States of America. Patients' charts were reviewed, from admission to death, to ascertain numerical pain intensity ratings and changes in administration of medications. Nurses were required to complete a detailed admission assessment form which included a numerical pain scale ranging from 0 for no pain to 5 for severe pain. In addition, nurses' daily progress notes were designed to provide information of pain descriptions and pain intensities. Dobratz et al. reported that nurses preferred to record patients' verbal pain descriptions rather than a numerical pain rating. In this study, although 50% of patients received no further numerical pain ratings after the initial admission assessment, hospice nurses did numerically rate the pain of patients who experienced increasing pain. When frequent skilled nursing interventions such as a change in route or an increase in pain medication were demonstrated, pain control in a population of home care patients was achieved. Dobratz et al. stated that it was important for consistent and precise pain measurements to be undertaken in terminal patients. The results from this study support the assumption that knowledge is required so skilled nursing decisions can be made about a patient's pain, thereby controlling that pain.

McKinley and Botti (1991) recruited 115 nurse-patient pairs for their study about nurses' assessment of pain in hospitalised patients. Patients were randomly selected from a 600 bed Australian teaching hospital, and participants included registered and student nurses. Patients and nurses used a visual analogue line, labelled "no pain" to "worst possible pain", to indicate pain intensity. Demographic data were collected from both patients and nurses. This study showed that 63% of patients' were in pain, and 60% of those reported that their pain was of more than 24 hours duration. The researchers reported that the prevalence of pain among patients was high, and that the relationship between patients' self-reports of pain and nurses' judgements of patients' pain was poor. This study confirmed that pain assessment has not improved since research undertaken in the United States of America, by Jacox in 1979. Jacox reported that nurses relied on changes in vital signs, body movement and/or facial expression rather than on the patient's report of pain.

McKinley and Botti's results also showed that registered nurses with 1 to 10 years experience were better at pain assessments than nurses with 10 to 20 years experience and nurses registered less than one year. Jacox (1979) found that student nurses were more likely to believe a patient who said he/she was in pain when there was no evidence to support that pain, than registered nurses. As a result of her findings, Jacox stressed the importance for "nurses who had been in practice for some time to be resensitized to the need for careful pain assessment" (p. 900). McKinley and Botti stated that nurses were not skilled at using pain assessment processes for making

judgements about patients' pain experiences and that poor pain assessment by nurses contributed to poor pain management. These studies support the belief that poor pain assessments by nurses contributes to poor pain management and that nurses need to be less task-oriented in their care.

### **Nurses' Demographic Characteristics and Knowledge**

Cohen (1980) studied the incidence of pain in postoperative patients in five central Illinois hospitals in the United States of America. The purpose was to ascertain nurses' attitudes and knowledge about narcotic analgesics. One-hundred and nine patients were interviewed and their charts reviewed. One-hundred and twenty-one nurses, from the same clinical areas as the patients, responded to a questionnaire. The questionnaire was self-administered and consisted of a series of clinical situations in the form of vignettes and multiple choice questions derived from Marks and Sachar (1973). The questionnaire was reviewed by a panel of nurses for additional validity. Demographic data from both patients and nurses were collected. Fifty-nine of the nurses lived in rural settings and 50 lived in a medium-sized city.

Cohen's (1980) results showed that 82 (75%) patients woke at night because of pain, 82 indicated marked or moderate distress due to pain and 49 (50%) cried out because of pain. Results from the chart reviews showed that analgesia received by patients was either equivalent to or less than ordered. The nurses' responses to the questionnaire revealed that they had an inadequate knowledge of narcotic analgesics, dosages given were



inappropriate, and they had an exaggerated fear of narcotic addiction. There was no significant relationship between nurses' responses to the questionnaire and demographic variables such as age, education, rural or urban residence, or time in practice. Cohen recommended that nurses needed pharmacological and pain management education. The results from this study support other findings that: nurses' characteristics do not affect their knowledge; nurses' lack knowledge; and education is needed.

Dudley and Holm (1984), in the United States of America, investigated which nurses would and which nurses would not be knowledgeable about pain assessment. Fifty registered nurses were randomly selected from 114 full time nurses employed on two surgical and two medical units, and a combined intensive care/coronary care unit. The researchers selected the following nurse characteristics for study: years in practice; age; relative job satisfaction; educational preparation; clinical practice area; cultural background; and shift assignment. Nurses' knowledge was assessed using a 60 item instrument and each item consisted of a vignette describing a patient's illness or injury, age and sex. Nurses were asked to rate each vignette on the degree of pain and psychological distress, using a seven point scale from none to severe pain. Dudley and Holm found no significant correlations between years in practice, age and nurses' scores. Also, there was no significant association between nurses' educational preparation, clinical practice area, shift assignment and their scores. These results support other studies that found nurses' knowledge was not altered by their demographic characteristics.

Hoyt and Sparger (1984) studied the various aspects of pain that were assessed by emergency department nurses in two Californian hospitals. Sixty full time registered nurses involved in direct patient care, were asked to participate in the study. Twenty-five nurses, aged 21 to 60 years, voluntarily completed a 20 item questionnaire. Reliability and validity were not established for this questionnaire. The questions included a definition of pain, prejudices and misconceptions about pain and the type of patients who received a thorough pain assessment. From the study, it was ascertained that only two of the 25 nurses used the word subjective in their definition of pain, and that nurses routinely asked about the onset and duration of the patient's pain. Seventeen nurses routinely documented the information obtained during pain assessment. Cardiac patients received the most thorough assessment because this type of patient was at potential risk for immediate life-threatening deterioration. Also, nurses showed awareness of their own prejudices and misconceptions. Hoyt and Sparger's study demonstrated that nurses perceived that some aspects of pain were routinely assessed, that others were not, and that some nurses did not document their findings. Hoyt and Sparger collected demographic data for this study, but did not relate it to nurses' pain assessments.

A descriptive study by Watt-Watson (1987) examined nurses' knowledge of pain assessment and narcotic administration, and the relationship of this knowledge to their educational preparation. One hundred and six graduate nurses and 101 baccalaureate student nurses voluntarily attended pain education programs in a hospital in Canada, over a 9 month period. Prior to

the programs they answered an 18 item questionnaire. Reliability and validity were not reported. The majority of participants recognised that when assessing pain it was important to listen to what the patient said and that patients were expected to tolerate minimal pain. Many nurses, 49% of graduate nurses and 60% of students, said they would encourage patients to increase their pain tolerance.

Watt-Watson (1987) reported that nurses' lacked knowledge of narcotic administration and their potential side effects, including addiction. One third of the nurses believed that placebos would be given to determine whether the pain was real. Misconceptions and lack of knowledge about pain assessment and narcotic administration were evident from this study. Most participants were not using any standardised approach to pain assessment and management, and many expressed their lack of knowledge and skills related to pain. Sample characteristics showed that nurses' education level and years since graduation were not significantly related to their knowledge scores. Watt-Watson (1987) recommended that there needed to be more formal content in nursing education on pain assessment, analgesic administration and in particular the use of narcotics. This study provides information about areas of deficit in nurses' pain knowledge and supports other studies that nurses' characteristics are not significantly related to their knowledge.

Dalton's (1989) study explored nurses' perceptions of their own pain assessment and management methods. Seventy-five questionnaires were

returned by staff nurses in a community hospital and an Oncology Nursing Society in the United States of America. Dalton's questionnaire measured nurses' pain assessment skills, pain management practices and attitudes toward pain. Content validity was assessed by two experienced nurses. This study demonstrated that nurses' pain assessment and management skills were similar for all groups studied, but noted some exceptions. The exceptions noted in Dalton's work were that nurses with more work experience and/or continuing education more frequently assessed a variety of factors related to patients' pain. Nurses in Dalton's study were familiar with many alternative methods of pain control for pain management, but they used those techniques less than 25% of the time. Also, most nurses did not assess patients' coping skills or assess the effect of pain on sleeping, eating, working or activity. Dalton (1989) suggested that changes in nursing practice, education and research would improve nurses' pain assessment and management skills. Results from this study support previously reported findings, that nurses' characteristics do not affect their pain assessment skills and noted the following two exceptions: that nurses with more work experience and/or continuing education more frequently assessed patients' pain.

### **Education of Nurses for Pain Management**

Graffam (1990) surveyed a random sample of 390 baccalaureate nursing programs in the United States of America, which were accredited by the National League for Nursing. This survey was undertaken to determine: the

formal class content on pain in the curriculum, the amount of time devoted to the subject, and whether or not there was a person on the faculty with expertise in pain management. Of the 305 responses to the survey received, 85% included some formal class content and 8% reported a separate course on pain. The amount of time devoted to pain and its management varied from 2 to 15 hours. Eighty-two percent of the programs reported that no one on faculty had expertise in pain management. Graffam's (1990) study was the only one available on pain content in university nursing programs. This survey supports the comment by McCaffery and Beebe (1989) that little has been taught about pain assessment and management.

The importance of pain management, education and accountability was emphasised in a report of a legal case that came before the courts in North Carolina (Cushing, 1992). This court case involved nurses who were caring for a patient in pain and the subsequent management of that pain. In this case the Director of Nursing withheld Roxanol (a liquid morphine) from a seventy-five year old man with terminal multiple cancers and an unpinned hip fracture (due to bone destruction). The Director of Nursing assessed the patient and documented that the patient was addicted to morphine, that it was her intention to reduce the pain medication and substitute a mild tranquilliser. Neither the Director of Nursing or the nursing staff, consulted the patient's doctor. The Director of Nursing testified that the patient requested medication when he seemed to have little or no pain, that she had not heard of giving such high doses of a narcotic or at such frequent intervals, and she had not heard of awakening a patient to give pain medication. The court ruling

criticised the nursing home because nursing staff had only occasionally documented their pain assessments and given little information on the effectiveness of pain medication. The North Carolina jury awarded a multimillion dollar payout to the patient's family. Cushing (1992) stated that this payout was likely because of the alarming facts related to the case. The report of this case shows where there are deficits in nurses' pain knowledge and highlights the importance of pain education to ensure nurses are proficient in pain assessment and management, related documentation, and are aware of the legal implications of their actions (i.e. duty of care). This report reinforces McCaffery's (1992) statement that aggressive educational efforts are needed in Australia to reduce the percentage of nurses who currently have an exaggerated fear of addiction because when nurses fear addiction they are likely to undertreat patients' pain with narcotics.

Degner, Fujii and Levitt (1982) studied a program introduced to improve the management of chronic pain in cancer patients, on a 34 bed unit in a 401 bed Municipal Hospital in Winnipeg, Canada. Patients in pain were treated as required (PRN) with narcotic analgesia which resulted in patients having significant pain at times and no pain at other times. Because of those observations it was decided to educate staff. Discussions were held with a multidisciplinary team to formulate an approach to pain control. During a seven month period an education program was developed and nurses were informed of the proposed changes. The education program was implemented for nurses in autumn of 1978 and repeated one year later. No prospective evaluation was planned, however, because of a profound shift in staff attitudes

and pain practices, a retrospective evaluation was conducted. The shift that occurred in nursing staff attitudes included negative attitudes toward the use of narcotics being replaced with sound knowledge, and the expectation that the comfortable patient would become the norm. The most significant outcome identified in this study was the improved quality of life for patients under the care of nurses who had participated in the education program. Degner et al. (1982) stated that changes in attitudes and expectations occur slowly and this may be an initial source of frustration when implementing change in pain management. This study demonstrates the effectiveness of education for changing nurses attitudes and subsequent pain management techniques.

Camp-Sorrell and O'Sullivan's (1991) study was conducted on four oncology units, in a large teaching hospital, in south-eastern United States of America. Nurses from one medical and one surgical unit were randomly assigned to the experimental continuing education class, and nurses from another two units were assigned to the control continuing education class. Nurses were not told which education classes were experimental or control. Data collected across four time periods were based on the attendance of 15 nurses in experimental classes and 14 nurses in control classes. A total of 14 classes were held on all three shifts on the selected units. One week prior to the study, the researchers randomly sampled five patient charts under the care of each participant. Their data established the level of documentation prior to continuing education classes. This procedure was repeated weekly for each of the remaining time periods. The results indicated a low level of pain

documentation by the nurses and, according to Camp-Sorrell and O'Sullivan, this may have been affected by staff/patient acuity, the way the continuing education was presented, and the content and length of the class. Furthermore, Camp-Sorrell and O'Sullivan believed that the results of this study did not lend support for continuing education classes as effective means for improving nurses' low levels of pain assessment documentation. However, this study reasons that the nonsignificant results could rest with the continuing education strategies and recommended that nursing administration give high priority to developing necessary education to address the deficits in nurses' knowledge. The sample size for this study was small, therefore, the findings in this study should be interpreted with caution.

Willson (1992) ascertained base-line information of 51 trained nurses' current pain management practices, on an acute care unit in England. A questionnaire was designed to test nurses' knowledge, management and attitudes related to pain. Nurses on two of the four wards were given a learning package on pain. Two months later, all nurses were requested to complete a questionnaire without reference to the literature or discussion with colleagues. The results indicated a number of relevant points: pain assessment charts were not being used on the wards; nurses did not pay attention to what patients said; they feared causing addiction; knowledge of physiological changes that occurred in acute pain was poor; 42% of nurses thought they could relieve pain only by administering drugs; 19% felt that pain could be relieved completely; and only 14% would awaken the patient to give analgesia. The responses from the four groups studied were similar,



suggesting that giving written information alone is not sufficient to improve nurses' pain knowledge. Willson (1992) suggested that a mandatory general pain study day would be one way of improving nurses' knowledge. This study provides information about deficits in nurses' pain knowledge, supports education as a means of correcting that deficit while stating that written information alone is not sufficient for improving that deficit.

Krohner and Spitak (1992) studied cancer nursing education in a community hospital in Washington. They felt that altering the focus and content of cancer nursing education was essential for ensuring high quality patient care. An initial approach to pain management in cancer patients often includes radiation therapy, chemotherapy, or hormonal manipulation, and analgesics play a major role in this management (Coyle & Foley, 1987). Four oncology education modules were developed: the first, a pre-requisite for the other modules was a five-day module, and introduced cancer nursing and basic cancer care information. It was presented five times. The second, a four-day module, addressed chemotherapy for cancer, and was presented three times; the third was a two-day module that addressed the principles and practice of radiation therapy, and was presented five times; and the last was a surgical oncology module that was presented twice. Written pre and posttesting was undertaken for each module, and 85% of responses had to be answered correctly for participants to pass the posttest. A total of 134 nurses who had participated in at least one module were examined. Ninety-eight nurses completed module one, 50 completed module two, 40 completed module three, and 16 completed module four. Across the four modules, the mean

posttest scores were higher than the pretest scores by at least 19 points, with the majority of participants passing the posttest. The results demonstrated that nurses' knowledge of cancer and its management increased significantly. Krohner and Spitak stated that comprehensive cancer-nursing education programs were essential for maintaining optimal practice standards. Education provided nurses with the knowledge and tools necessary to meet complex patient care needs, therefore, ensuring high quality patient care. This study provides evidence for the usefulness of education for improving nurses' knowledge of cancer and subsequent pain management.

### **Literature on Methodology**

#### **Purpose of Education**

There is a consensus that the optimal goal of continuing education programs in the health system is to bring about improvements in patient care through change in behaviour of health care providers. Whenever changes occur in policy or technology that necessitate changes in nursing practice, employers rely on education programs to upgrade the knowledge and skills of staff (Gillies & Pettengill, 1993). The American Nurses Association Council on Continuing Education (1975) suggested that continuing education programs are planned learning experiences designed to promote the development of nursing practice, thus improving health care to the public. Schweer and Gebore (1976) stated that "the concept of continuing education should be viewed in its broadest sense" (p. 195). Continuing education includes many creative teaching styles and types of learning.

Teaching is a system of actions designed to bring about learning, and learning is a change in behaviour in an individual, such as a nurse, as a result of experiencing that teaching (Guinee, 1978). To achieve this learning, one can design a specific focus in a program. This, in turn, can limit the length of such programs so that a workshop of one day duration, or a single lecture or discussion may be considered to be a continuing education program.

Sharpe (1986) stated that "one of the major change strategies the nurse utilises is the teaching-learning process. It is a planned interaction that produces a relatively permanent change in behaviour not brought about by maturation or any chance circumstances" (p. 90). This process is a dynamic interaction between teacher and learner where the teacher facilitates the change, and learning is the resultant behaviour change. This exchange results from reciprocal interaction where emotions, perceptions, beliefs and values are among the information that is transmitted back and forth between the teacher and the learner (Sharpe, 1986). The goal of teaching is the transfer of learning from a learning experience to a similar situation and later, to its application in real life (Van Hoozer, 1987).

Continuing education in pain management has emerged as a response to change and expansion of knowledge in this field. The focus of continuing education in pain management is to transmit new knowledge and skills, reinforce or restore previous knowledge and skills, and correct acquired misconceptions. In the past, when Australian nurses showed a knowledge deficit or were incompetent in caring for their patients, it was dealt with by

disciplinary action (Langslow, 1985). This type of action does not succeed in filling knowledge deficits or protecting the safety of those patients relying on nursing care.

Education and reeducation is needed in Australia to ensure that changes in pain assessment and management are implemented, and result in improved patient care (National Health & Medical Research Council, 1988). Nursing education programs in pain management need to be well planned and research based (Murray, 1984) to produce changes in knowledge, thinking, skills, attitudes and misconceptions, and be readily available for nurses giving direct patient care. It is through these nurses that most patients receive pain control (McCaffery & Beebe, 1989).

### **Purpose of Evaluation**

Litwack, Linc & Bower (1985) viewed evaluation as "the process of appraising the meaning of data gathered through one or more measurements" (p. 5). A vital and essential component of the continuing education process is evaluation. When evaluating the effectiveness of a continuing education program/workshop the following should be considered: the program's suitability to the needs of the population being taught, and the need to appraise whether the student learnt anything as a result of the program (Betz, 1984; France, 1988). Evaluations are concerned with making judgements and decisions: to justify the existence of a program, e.g. because it is a mandatory requirement for registration with the Nurses Board; about the cost-

effectiveness of the program; and to guide the educator in making decisions about modification to the continuing education program (Betz, 1984).

Barrett-Barrick (1993) stated that program evaluation is a circular process which extends beyond data collection, analysis and the dissemination of results and recommendations. This circular process involves people who will take the results and recommendations to assess and deliberate the findings. From this deliberation, they make program decisions, implement those decisions, and reevaluate the results (Barrett-Barrick, 1993).

For the purpose of this study, evaluation will be undertaken to assess and evaluate the knowledge gained by participants, from the information presented during a workshop on pain assessment and management. Following this, decisions will be made regarding required modification to the workshop. Effective education programs must build and relate to existing knowledge, skills and attitudes of the participants. One month after the workshop, a follow-up test will examine retention of nurses' pain assessment and management knowledge.

### **Nursing Evaluation**

There are many approaches to evaluation, and the evaluative process, promoted within the literature (Albanese & Gjerde, 1987; Bevis, 1982; Stake, 1975) . There are many varieties of evaluation which can be compared such as quantitative-qualitative or deductive-inductive. The basic comparison for

this seems to be with or against the classical approach of hypothetico-deductive paradigm, which was developed by the natural sciences. The responsive approach to evaluation has been developed as an alternative approach for social sciences and especially anthropology (Stake, 1975).

As professionals, nurses are accountable for nursing practice. A purpose of evaluation in nursing is to measure the outcomes of nursing interventions to provide justification for nursing actions (Davis, 1993). However, assurance of continued nursing competence, i.e. accountability, for consumer protection was a major issue for nurses as health care practitioners (Wilk, 1986). However, it has been identified that there are many areas of concern arising from difficulties in evaluation which may influence results and levels of accountability (Litwack et al., 1985).

### **Approaches to Evaluation**

The 1970's were seen as a valuable time in educational evaluation for explaining deficiencies in quantitative methodology and making advances in qualitative methodology. Various authors have begun advocating the combination of quantitative and qualitative methods, and to depict the usefulness of combining approaches to educational evaluation and other areas of research into education and social science (Reichardt & Cook, 1979; Smith & Fraser, 1980; Wood, 1989).

Continuing nursing education programs require evaluation so that monitoring or revision can be done on a regular basis. Several studies have examined the impact of continuing education on nurse behaviour, knowledge and skills (Farley, 1988; Gosnell, 1984; Heick, 1981; Holzemer, Barkauskas & Ohlson, 1980; Kuramoto & Sandahl, 1980; Reaby, 1990; Valencius, 1980a, 1980b). These studies support the claim that continuing education improves the practice of nursing.

Collart (1976) saw adult education programs in nursing as planned to produce change in nurses' knowledge, ways of thinking, attitudes, and conduct. Evaluation includes knowing where the education is going and whether the behavioural change is one that is intended and desired. Evaluation is meaningful in terms of program objectives and becomes measurable when objectives are written with succinct criteria.

Summative evaluation is undertaken at the completion of the learning experience (Bevis, 1982) to provide information on the extent to which objectives have been met, for making judgements about the learners, for program revision and for determining the effectiveness of a program (Albanese & Gjerde, 1987; Reilly & Oermann, 1985). Pretest and posttest data are collected for this purpose (Bratton, 1987).

Many continuing education nursing programs are evaluated based on learners' performance on pretests and posttests. Numerical data are then provided from which a program planner may make judgements.

Achievement/retention measurements should be analysed in order to be confident of real improvement. It is necessary to calculate standard errors of measurement since it is only when a nurse's gain from pretest to posttest exceeds the standard errors that a true gain can be determined (Collart, 1976).

For the purpose of this study a survey method of data collection was used because it allowed for systematic data collection of a pretest, posttest and follow-up test from nurses in country areas of Western Australia. A method of evaluation that can be used is to look for the actual effects of an educational program on participants' knowledge. In this study data were analysed to measure the actual effects of a workshop on nurses' pain assessment and management knowledge.

### **Retention of Knowledge**

Bevis (1978) stated that "research indicates that the more meaningful the material is the more material is united by clear relationships among facts, and the more behaviours are supported by generalisations, rules, and principles the greater the retention will be" (p. 78). Also, when students apply what is learnt to problems, they have the opportunity to verify uniting principles and self-appropriate the learning. Results from studies by Cox and Baker (1981), Oliver (1984) and Warmuth (1987) support Bevis's statement. These studies examined the application of clinical skills then compared these with the acquisition of cognitive knowledge after continuing education related to



teaching physical assessment skills to nurses. Results of these studies demonstrated that when nurses had the chance to practise a skill during a continuing education workshop and then apply that skill on the job, this method of teaching was effective and congruent with adult learning. The learning process becomes a new way of thinking when adult learners compare new knowledge and skills to old, and can see the relevance of learning new knowledge and skills to their work situation (Knowles, 1990).

Kiener and Hentschel (1989) perceived that because competency and accountability are integral to the nursing profession, knowledge retention and clinical application are pertinent factors to consider when undertaking a continuing education program. Everyone may pass the posttest, but this does not mean that the knowledge will be applied to nursing practice. High posttest scores indicate that the majority of objectives have been achieved by the majority of participants. Reasoning and thinking need to be applied to the knowledge learnt before retention and understanding of knowledge are achieved (Coliart, 1976). Administrative support is also needed for new knowledge to be incorporated into nursing practice. It can be difficult for nurses to change their practice if senior staff are apathetic or show opposition to the change (Kiener & Hentschel, 1992).

Myers (1985) studied nurses' knowledge of and attitudes toward the management of cancer pain. A three hour pain educational program was presented, on two separate occasions, to 76 nurses who worked in a 100 bed private hospital in the United States of America. Myers' used Chin and

Benne's (1969) change theory and Melzack and Wall's (1975) gate control theory of pain as theoretical frameworks for this study. The data for the study were collected from a two part questionnaire, developed by Myers, to ascertain the knowledge and attitudes of nurses. Each item on the questionnaire was derived directly from the literature, and content validity and reliability were ascertained. The questionnaire was administered prior to and on completion of the three hour education program, and then two weeks later. The design was a pretest, posttest, follow-up design. In this study, 42 (55%) questionnaires related to knowledge were suitable for analysis, while 43 (57%) questionnaires could be evaluated for attitude scores.

In Myers' study, nurses' knowledge and attitude scores were significantly higher on the posttest ( $p < .01$ ), and there was no significant difference between results for the posttest and follow-up test. However, scores on the follow-up test decreased slightly. The results showed no significant relationship between a nurse's number of years in nursing and level of training, and attitude scores on each of the three tests. There was a significant relationship between knowledge scores on the pretest and follow-up test, and participants' ages. Nurses in the 46 to 55 and in the over 55 years age groups scored consistently lower than younger nurses. Attitude and knowledge scores for all participants in this study improved after education. Results indicated that participation in an education program positively changed nurses' attitudes and knowledge immediately following the program and this was maintained two weeks later. This suggests that education could improve nurses' knowledge and attitudes toward cancer pain management. Nurses in

this study strongly agreed that doctors and nurses needed more education on the management of cancer pain. Myers (1985) saw this as issuing a challenge to educational institutions and professional organisations to provide access for health professionals to better education on cancer pain management.

Evaluation of nursing programs is an integral element of the educational process. There are usually two major reasons for performing an evaluation of a program: the first is to evaluate a new (or changed) program and the second is to conduct a continuing evaluation of an ongoing program to improve it. Evaluation studies of a new program often use one of the following two methods: comparing the new with an old program or comparing data from the program over a period of time. The latter approach uses one group from which comparisons are made (Sohn, 1987).

No previous Australian studies were found that evaluated a pain assessment and management program, therefore, for the purpose of evaluation in this study, data from a workshop were compared over a period of time. This study was designed to gather data on nurses' pain assessment and management knowledge, to investigate what change occurred to that knowledge following a workshop, and to evaluate the workshop with the aim of improving it. A one-group pretest-posttest-follow-up design was therefore adopted for this study. This methodology supplies the following information: the difference between the pretest and posttest indicates how successful the workshop has been and indicates where revision to the workshop is required in order to improve it,

and a follow-up test indicates how much knowledge was retained by the subjects (Davies, 1973).

### **Chapter Summary**

Many studies (Donovan et al., 1987; Owen et al., 1990; Saxey, 1986; Seers, 1987 ) provide information about areas of deficit in nurses' pain assessment and management knowledge. Misconceptions that hamper nurses' pain assessment and management techniques were also noted in the literature (Lander, 1990; McCaffery et al., 1990; McCaffery & Ferrell, 1992). Nurses attach greater importance to analgesic administration than they do to alternative therapies when managing pain. (Dalton, 1989; Saxey, 1986). Studies of nurses' pain assessment knowledge demonstrated that years in practice, educational preparation and area of employment made little difference to their pain assessment knowledge (Cohen, 1980; Dudley & Holm, 1984; Watt-Watson, 1987). However, Dalton's (1989) study indicated that nurses with more experience and education had additional knowledge, and Myers' (1985) study demonstrated that nurses in the 46 to 55 and in the over 55 years age groups scored consistently lower than younger nurses. Some studies (Berker & Hughes, 1990; Dobratz et al., 1991) used pain assessment tools to improve nurses pain assessment and management with success, however, a similar study by Bagley et al. (1982) showed that nurses did not consistently use these tools.

A number of researchers (Dudley & Holm, 1984; Dalton, 1987; Hoyt & Sparger, 1984; McCaffery et al., 1991; Watt-Watson, 1987) have identified the need for nurses to be more knowledgeable about pain assessment and management. Many researchers (Dalton, 1989; Camp-Sorrell & O'Sullivan, 1991; Degner et al., 1982; Hoyt & Sparger, 1984; Krohner & Spitak, 1992; McCaffery & Ferrell, 1992; Myers, 1985; Saxey, 1986; Watt-Watson, 1987; Willetts, 1989) endorsed teaching programs to improve nurses' knowledge of pain management.

Graffam's (1990) study showed that very little time was devoted to pain education in nursing programs and that many faculties had no pain expert on campus to teach this subject. Camp-Sorrell and O'Sullivan (1991) used continuing education classes to improve nurses pain assessment knowledge and documentation skills with little success. Willson (1992) used a pain learning package to improve nurses' knowledge and attitudes about pain. Willson's study suggested that a written learning package was not sufficient on its own to improve nurses' pain management knowledge. Krohner and Spitak (1992) had more success with their cancer modules for educating nurses. Myers (1985) implemented an educational session of three hour duration which covered cancer pain management and improved nurses' knowledge.

The aim of pain assessment and management education for nurses is to improve their knowledge and ultimately improve patient care. There is ample evidence that many practising nurses do not know what they need to know to

assume an active role in pain assessment and control (McCaffery & Beebe, 1989). The literature has clearly indicated the need to educate nurses about pain assessment and management. Available pain studies are mainly international, with few Australian studies available. There were no Australian studies that focussed on nurses' pain knowledge before and after education. Therefore, it was proposed that this study examine what change a workshop would have on nurses' knowledge of pain assessment and management. Both Registered and State Enrolled Nurses who wished to attend the workshop were included in this study. Chapter Three provides the theoretical framework for this study.

## **CHAPTER THREE**

### **THEORETICAL FRAMEWORK**

#### **Introduction**

This chapter discusses the theoretical framework for this research, which is based on change theory by Chin and Benne (1969). Two key concepts of change theory, the rational-empirical and normative-reeducative change strategies, underpin this study. Key concepts of these two change strategies are discussed, followed by an account of previous works related to pain that have used change theory as a theoretical framework.

#### **Change Theory**

Much has been written concerning change, the planning, the agent and the process. Chin and Benne (1969) stated that planned change is the conscious, deliberate and collaborative effort of applying knowledge of behavioural sciences to practical problems in organisations. Zaltman and Duncan (1977) defined change as "relearning on the part of an individual or group in response to newly perceived requirements of a given situation requiring action, and which results in a change in the structure and/or functioning of social systems" (p. 10). This change is effected by using a deliberate and collaborative relationship between the change agent and the client system. Chin and Benne (1969) saw the change agent acting in the

role of helper to the client system. Goals, objectives and plans to achieve change are seen as being developed co-operatively.

Chin and Benne (1969) in their theory for change described three strategies for bringing about change: they are the rational-empirical, normative-reeducative and power-coercive strategies for change. Each strategy is based on different assumptions pertaining to what makes people change or alter their behaviour. Two strategies chosen for this study. They were the rational-empirical and normative-reeducative strategies.

The rational-empirical strategy for change is based on the following assumptions:

1. This change strategy is the least power-oriented of the three strategies.
2. It assumes the system to be changed is relatively passive or has a neutral attitude, therefore, this strategy does not emphasise the use of strategies designed to overcome resistance to change.
3. This strategy assumes that people are rational and that they will pursue their own self-interest once they know what those interests are.
4. This strategy assumes that nurses' knowledge will improve because they know that the knowledge taught is desirable and it is assumed that this knowledge will result in improved patient care (Chin & Benne, 1969).



The rational-empirical strategy for change requires that the change agent provide information, suggests that new knowledge provides a sound reason for change, and attempts to convince the participants of the need for that change. The rational-empirical change strategy relies on the power of knowledge to implement the required change (Chin & Benne, 1969).

A rational and practical approach of educating nurses how to effectively assess and manage patients' pain points out how this new knowledge is in the best interest of their patients. This approach to change depends heavily on appealing to the nurses' self-interests and assumes that they will listen and use the knowledge in a way that best serves their own perceptions of what that knowledge means to them. Study days and workshops, where participants are invited to contribute to the learning program, are techniques that have been used for disseminating information to bring about change (Keyzer, 1985, in Wright, 1989)

Rogers and Shoemaker (1971) used the following three steps for implementing and evaluating rational change:

1. develop the required change,
2. communicate the information developed in the first step,
3. then evaluate to see whether the change has been adopted or rejected.

However, factors other than knowledge affect the process of change. Those factors are: the power of motivating forces for and against the desired change; beliefs, values and attitudes; length of time outmoded behaviours have been practised; tolerance for risk; and many other variables (Haffer, 1986). Therefore for change in pain assessment and management to be successful it also requires a strategy aimed at changing nurses' beliefs, values and attitudes about pain and its management.

The normative-reeducative strategy for change is based on the following assumptions:

1. This change strategy has medium power. It is located midway between the rational-empirical and power-coercive change strategies.
2. Some resistance to the change is anticipated because people are committed to socio-cultural values that underpin their actions but, it is expected that this resistance can be overcome through education that will, in the long term, modify attitudes, values, beliefs and skills.
3. The change agent and the target group are expected to be active participants in the change process (Chin & Benne, 1969).

With this strategy, change occurs when people are persuaded to abandon their old commitments and adopt new ones (Chin & Benne, 1969). The normative-reeducative change strategy works on the premise that people

need to be involved in the change process and their actions are directed by a normative culture which involves open communication and agreed norms of behaviour (Wright, 1989). Normative-reeducative change strategies that can be applied to individuals or groups are problem solving and training techniques or retraining (Chin & Benne, 1969). During this change process, it is possible for the teacher to overcome the anticipated resistance to change by establishing an open and interactive atmosphere where participants can develop their own understanding of the need for change and are involved in making decisions related to the change and how it may be accomplished (Van Hoozer, 1987). Greater results are often achieved when change is implemented using an approach that combines both an educational and an emotional component (Brooten, Hayman & Naylor, 1988).

This process of change is appropriate to the needs of individuals and groups who are motivated, willing and able to change. The change agent uses his/her energies where they can do the most good, that is, with people who have identified the need for change and perceived the relevance for that change in their daily nursing practice (Wright, 1989). The normative-reeducative change strategy relies on the rational-empirical strategy for change because a major component of education is to show people what direct effects new knowledge or alternative courses of action will have on them and those for whom they care. The desired change, therefore, should be achieved because education has been combined with an emotional and moral component.

The power-coercive change strategy is based on the assumption that the less powerful will comply with the wishes of the more powerful. This change strategy is the most power-oriented of the three strategies. The power used in some instances, in this strategy, can be legitimate or authoritarian power and in other instances, the power can be illegitimate and coercive. Illegitimate and coercive change strategies force change on people. The preferred method of change uses strategies that wins participation and consent for the change by the people involved. The use of power-coercive change strategy can and often does result in divisiveness and polarisation (Chin & Benne, 1969). The power-coercive change strategy was not considered suitable for this study because this strategy provides information in an autocratic style by telling, giving orders, directing change, and defines the who, what, where, when and how of the change (Wright, 1989).

Change agents who are implementing change must be aware of the need for it, and understand what the change is and how it will affect those involved. Everyone then, needs to be able to see the proposed change as being one that will bring about improvement in the area required. It is also important that people view the change as being compatible with their own personal values and not in conflict with the values, policies and regulations of the organisation (Bevis, 1982; Wright, 1989).

People become aware of the need for change when expectations are not met, or when discomfort and guilt arise because of some action or its lack. Some people do not become aware of the need for change until an obstacle for change has been removed (Bevis, 1982).

When assessing the rate or chances of success in the implementation of change, motivational factors need to be considered, as expectations are standards or criteria by which people measure performance and its outcomes. Any consumer system will accept change more readily if the change is perceived as being personally advantageous (Bevis, 1982). Inherent within learning is the necessity to provide a learning experience that will enable nurses to develop nursing behaviours that promote the greatest possible health for every individual in society (Bevis, 1978). Underlying learning experiences is theory building which is a process that provides a guide for action or practice. The theoretical framework is an interrelated system of assumptions which provides guidelines for making decisions about objectives, content, implementation and evaluation. As nursing is a practice discipline it is necessary to base educational sessions on behavioural objectives at all levels. Course designs can facilitate or inhibit flow of content due to the structure of the material, however, what is important is how the format is used (Bevis, 1978).

For change in practice to occur, certain conditions must be included whilst the change agent collaborates with others to establish situations so planned change can proceed. One avenue for this is using a workshop to change nursing practice related to pain assessment and management. Change theory states that the process for change is achieved by the presentation of knowledge. For the purpose of this research, a workshop is presented to nurses who realise their need to learn and to actively take part in exchange of information. Therefore, the change agent's challenge is one of implementing

pain management education to improve nurses' knowledge and confidence in assessment and management of patients in pain, with the ultimate aim of improving the quality of care for those patients.

For change to be successfully implemented, all levels of nurses need to be actively involved in the proposed change (Keyzer, 1989; Sofaer, 1985), and the change agent needs to consider the age differences of nurses (Surman, 1989). During the one, two or three decades that this age difference can span, there has been considerable change in nursing education. This may be a reason why some nurses have difficulty accepting change or participating in change (Surman, 1989). However, getting all levels of nurses together to share ideas, knowledge, fears and hopes and by giving them knowledge of the goals they are aiming for and how to achieve them is an important part of the change process (Wright, 1989).

A diagrammatic explanation of the progression sequence for the change process in this study is illustrated in Figure 3.1. The researcher identified the need for change in nurses' pain assessment and management knowledge. Then the needs, goals, problems and aspirations of nurses were assessed by reviewing the literature. Appropriate pain assessment and management information was integrated into a workshop. The evaluation of the workshop was by pretest, posttest and follow-up test, based on the theoretical framework of change. It was predicted that subjects attending the workshop would improve their pain assessment and management knowledge. Data were analysed to assess nurses' knowledge base and to validate whether the

**Figure 3.1**  
**Systematic Plan for Change in Nurses' Knowledge of**  
**Pain Assessment and Management.**

**Change Agent**  
**Researcher/Educator**

to

**Assess**

Identify need for change in pain assessment and management.  
 Literature review to assess knowledge required.

**Plan**

Select appropriate pain information.  
 Select appropriate strategies and style for presenting information.  
 Identify desired outcome (questionnaire for evaluation).  
 Set time for information sharing (one day workshop repeated on four consecutive occasions).  
 Select venues and resources.

**Implement**

Presentation of information (workshop) to nurses.  
 The change agent and nurses are active participants in the change process.

**Evaluate**

By pretest, posttest and follow-up test.

**Change**

Accepted or not accepted.

workshop positively changed their pain assessment and management knowledge and what relationship this had to selected characteristics of those nurses. It turned out that there was a significant difference in subjects' pain assessment and management knowledge following the workshop, and this knowledge was retained one month later, as compared to their knowledge prior to the workshop.

### **Change Theory and Pain Management**

Two professional papers examined the role of nurses in pain management, and explored strategies for changing the way nurses care for patients in pain. The first paper, by Murray (1984), an Australian nurse, reviewed nursing literature, examined the role of nursing research in cancer pain management and explored strategies for changing the way nurses manage patients with cancer pain. Murray also examined the nature of pain, factors which influence pain, pain assessment tools, pain management in terms of narcotic analgesia, and harmful nursing actions affecting the management of cancer pain. From this examination of the literature, Murray stated that the nursing management of pain did not reflect the knowledge base which presently existed concerning pain. She stated that deliberate nursing actions for pain management occur infrequently, misconceptions often cloud the assessment of pain and analgesics continue to be given with little regard to their pharmacological properties. Murray also noted that useful pain assessment tools had been developed, however their use, particularly within Australia, remained limited. Murray stated that there was an obvious need for change in



pain management. Murray (1984) discussed change in a broad sense and within the clinical setting, and in summary, stated that the need to change present pain practices had been clearly shown, and could "only be achieved through careful planned education and a commitment to accountability" (p. 41).

The second paper, by Clements and Cummings (1991) in San Diego, studied helplessness and powerlessness as felt by nurses in relation to their ability to interact with patients in an acute care setting. The patients had histories of chronic pain, substance abuse, and acute pain associated with trauma or surgical intervention. Patients in pain can exhibit helplessness as anxiety, depression, guilt, anger, and hostility. Nurses who feel helpless because of their inability to provide comfort to patients in pain, often manifested this by avoiding the patient, and exhibiting frustration and apathy. Nurses also felt powerless in their ability to change how patients' pain was managed. Change often occurred by chance and in a disorganised manner. Thus, the nurse manager and nurse clinician decided to look at the steps required for implementing change. Firstly, they recognised the need for change and developed a clear plan which incorporated a pain team. The second step was to educate the pain team and staff members about pain management, in order to promote better pain management for patients. The third step identified the target groups: the physicians and the nurses. The fourth, involved the presentation of the pain management plan to the target groups. The fifth and sixth steps of the change process, the acceptance or rejection of the plan and evaluation of the effects of the change, were accomplished by constant

communication as well as ongoing informal evaluation by the pain team. In summary, Clements and Cummings (1991) stated that education had achieved its primary outcome, patients were receiving consistent and efficient pain relief.

### **Chapter Summary**

The literature on the use of this conceptual framework supports the argument that change in pain management is necessary, and that when change is planned, it can produce significant improvements in nurses' knowledge of pain assessment and management. The rational-empirical and normative-re-educative strategies for change are, therefore, deemed suitable for implementing the change required in nurses' knowledge of pain assessment, analgesic administration and alternative methods of pain control. Change will be more successful if all levels of nurses are involved in the change and their age differences are taken into consideration. Chapter Four discusses the methods and procedures for this study.

## **CHAPTER FOUR**

### **METHODS AND PROCEDURES**

#### **Introduction**

The purpose of this chapter is to describe the methods and procedures for this study. Firstly, the setting and sample are discussed, followed by the design, instrument, and procedures. The final sections of this chapter address the ethical considerations, assumptions and methodological limitations.

#### **Setting and Sample**

The researcher notified two large country hospitals in Western Australia of the proposed study and workshop on pain assessment and management. Permission was given for the workshop to be conducted at these hospitals. One month prior to the workshop, staff development coordinators from these hospitals sent information about it, to their nurses and to surrounding hospitals and community centres.

The subjects for this study included Registered (RNs) and State Enrolled Nurses (ENs) of differing ages and educational preparation who chose to attend a workshop. All the nurses ( $N = 83$ ) who attended the workshop were asked to participate in this study. Subjects were, therefore, a non-random convenience sample. The pretest was completed by 99% ( $n = 82$ ) of the

nurses, the posttest by 93% ( $n = 77$ ), and the follow-up test by 85% ( $n = 71$ ). One subject filled out the follow-up test in part only and for this reason it was discarded. Three subjects filled out only the pretest and follow-up test and, for this reason, they too were discarded. Therefore, 67 nurses were the subjects in this study, providing a response rate of 81% of the total nurses ( $N = 83$ ) asked to participate.

### **Design**

The design of this research is a one-group pretest-posttest-follow-up design. The survey method of data collection was used because it allowed for systematic collection of data before and after the workshop, and facilitated the collection of follow-up tests from subjects in country areas surrounding the two Western Australian hospitals where the workshop was presented.

A pretest-posttest-follow-up design was used for this study because of the functions this type of testing provides. Davies (1973) stated these functions are that:

1. analyses of the pretest data indicates whether the workshop was necessary;
2. analyses of the posttest scores indicates how successful the workshop has been;

3. analyses of the distribution of errors made on the posttest indicates where change to the workshop is required in order to improve it; and
4. the follow-up test indicates how much knowledge was retained.

Independent variables in this study were the categories of nurses answering a questionnaire based on their age, years of nursing experience, area of employment, level of nursing practice attained, level of education and previous education in pain management. The dependent variable was nurses' knowledge of pain assessment, analgesia and alternative methods of pain control.

### **Instrumentation**

The construction of the questionnaire began with the purpose of developing an inventory that would measure nurses' knowledge of pain assessment and management. The development and validation of this questionnaire involved reviewing the literature to determine item content, obtaining questionnaires from other researchers, selecting and rewording items, assessing reliability and validity of the questionnaire, revising and piloting the questionnaire.

A review of the literature showed that existing questionnaires did not cover pain assessment techniques, analgesic administration and alternative methods of pain control within one questionnaire. The questionnaire for this study related specifically to issues covered during the workshop. The

questionnaire was adapted and developed from four questionnaires (Dalton, 1989; Hoyt & Sparger, 1984; McCaffery, 1986, 1991; Watt-Watson, 1987) by the researcher and an expert nurse. Written permission was granted by the authors to use their questionnaires in part or in whole (see Appendix A).

The questionnaire consisted of 18 items designed to test nurses' knowledge of pain assessment and documentation, 26 items designed to test nurses' knowledge of analgesic administration and alternative methods of pain control and seven open-ended items related to nurses' attitudes, misconceptions and definition of pain. This was followed by an 11 item demographic section. The questionnaire required approximately 30 minutes to complete. Specific topic items were grouped together, with general items related to pain assessment grouped first, followed by the more specific items related to knowledge. Open-ended items were included at the end of the section to which they related. The pain assessment and open-ended items were only included on the pretest and follow-up test because they required time for the subjects to incorporate the knowledge learnt from the workshop into their daily nursing practice. All items on the questionnaire were allocated two marks for a correct response, one for a partly correct response, and no score for an incorrect response.

The questionnaire used in this study is reproduced in Appendix B. A cover letter preceded the pretest questionnaire which included the demographic data section. An abbreviated form of the questionnaire, used for the posttest, and consisting of knowledge items only; Items 1, 23 to 32 and 34 to 49 is also

included in Appendix B. The follow-up questionnaire was the same as that used for the pretest, excluding the demographic data section.

### **Test-retest Reliability**

Ten nurse practitioners from two city hospitals, who were experienced in pain assessment and management were requested to answer identical questionnaires on two separate occasions, at least 24 hours apart. Eight nurses completed the test-retest and their responses were considered suitable for testing reliability. The 24 hour interval between questionnaires, while very short, was deemed necessary because the two hospitals at which the nurses were employed currently educated nurses on a regular basis on the subject of pain management, and it was felt that this could affect their responses.

Test-retest reliability was assessed using a correlation coefficient. The computed reliability coefficient for Assessment Items 2 to 19 was  $r = .96$ , for Knowledge Items 1, 23 to 32 and 34 to 49 was  $r = .94$ . These test-retest correlation coefficients are high, which supports the instrument's attribute of reliability.

### **Validity**

Face and content validity were determined for this instrument. Face validity verifies that the instrument appears to measure the concepts being taught.

Face validity was ascertained by an expert nurse experienced in research and instrument development. The questionnaire was considered to measure the required concepts.

The content of the questionnaire was evaluated by six of the 10 nurse practitioners asked to rate each item on the questionnaire for its relevance and importance. All nurses were experienced in pain assessment and management. The nurses were asked to assess the relevance and importance of the content of each item using a four point scale for relevance and a four point scale for importance as follows: not relevant, somewhat relevant, quite relevant and very relevant; not important, somewhat important, quite important and very important (Krumme, 1988). The nurses were also asked to identify any areas of omission, and to suggest any improvement or modification for an item. No areas of omission were identified and modification of some items were suggested. A nurse with knowledge of pain assessment and management, and one experienced in research and instrument development, with the researcher, were the three expert nurses who made alterations to the questionnaire prior to, and following this evaluation.

As an indication of content validity, items rated 3 to 4 are quite or very relevant and quite or very important. The means for items in this instrument ranged from 3.3 to 4 for both relevance and importance, with the exception of Item 31 which had a relevance mean of 3 and an importance mean of 2.8. Item 31 required a true or false response to the following: "Cold often provides



faster and longer pain relief than heat". Because cold and heat are important alternative methods for pain control, the expert nurses decided to leave Item 31 in the questionnaire.

### **Pilot Test**

The purpose of the pilot study was to determine whether there were any problems in the proposed data collection strategies, if the participants could understand what was being asked of them, whether the questionnaire gathered the relevant data, and to get some direct experience with using the questionnaire.

The subjects selected for the pilot study closely resembled the intended subjects for this study. The subjects were 39 RNs who attended a two day pain management short course in Victoria. They worked at country and city hospitals in a variety of settings: combined medical/surgical, medical, surgical, oncology, hospice, palliative care and community/district nursing. All nurses were involved in direct patient care, 37 volunteered to participate in the pretest and 32 participated in the posttest. Subjects' ages ranged from 24 to 52 years, they had from 4 to 30 years in nursing practice and 38% were employed full time and 62% part time. All subjects were hospital trained, seven had or were completing nursing degrees and 11 had attended previous pain management education.

During the pretest, subjects asked the meaning of particular words and phrases such as: equianalgesic, potentiator and hourly flow sheet. Subjects were told that the short course would cover those areas. Subjects were questioned about the questionnaire during the breaks in the short course and at its completion. Subjects stated that when new terms were used during the short course they understood the terminology and its importance to pain assessment and management. They also stated that 20 minutes was not sufficient time to complete both the knowledge and demographic sections of the questionnaire, and suggested 30 minutes.

Apart from allowing more time to complete the pretest, and some minor modification to the layout of the questionnaire, the method of data collection proved to be satisfactory. The returned questionnaires suggested that it was a suitable instrument for gathering relevant data on nurses' pain assessment and management knowledge. Thus the results suggest that this questionnaire was a suitable instrument for a formal study on nurses' knowledge of pain assessment and management.

### **Procedures**

In this study the required change was identified by reviewing the literature to find the deficits in nurses' pain assessment and management knowledge. A workshop was developed and presented by the researcher, who also took the role of change agent. Using a problem-solving approach to teaching and learning, the change agent facilitated the change by fostering reciprocal

interaction with all nurses involved in the learning process. Also, during discussions, support was provided to reduce anxiety so that information about beliefs and values related to pain management could be transmitted back and forth. This dynamic interactive flow of verbal and non-verbal communication between teacher and learner, and learner and learner, was facilitated by written and verbal questioning using the following teaching strategies: provided instruction, lecture, lecture-discussion, discussion, role play, demonstration and strategies for using pain assessment tools in a group process, open discussion format and mini-tests.

The objectives of the workshop were organised in a sequential order. Thus, the attainment of objectives first mentioned are a prerequisite of the next objective until the program's purpose is accomplished. The workshop spanned from 0800 hours to 1630 hours, see the schedule in Appendix C. Also in Appendix C are the objectives for the workshop and an overview of the pain assessment and management information presented during the workshop.

The workshop, of one-day duration, was presented at two country hospitals in Western Australia. The Directors of Nursing and Staff Development Coordinators were contacted for permission to use the hospitals for this workshop. The workshop was repeated on four separate occasions, on two consecutive days at each hospital. RNs and ENs were invited to participate. A closing time for applications was not nominated and there was no limit placed on the number of subjects who could attend the workshop.

To obtain baseline data of the pain assessment and management knowledge held by the subjects of this study, a pretest was administered at the commencement of the workshop. A posttest was administered immediately after the workshop, and collected 15 minutes later.

Four weeks after the workshop, a questionnaire that was identical to the pretest, excluding the demographic section, was posted to subjects. A covering letter (see Appendix D) and pre-paid self-addressed envelope was included with this follow-up test. Seven weeks after the workshop, a letter (see Appendix D) was posted to subjects who had not returned their questionnaires. Nine weeks after the workshop, the questionnaire, including a deadline for reply (see Appendix D) and a pre-paid self-addressed envelope, was once again posted to subjects who had not responded.

### **Ethical Considerations**

Subjects were informed of the research at the commencement of each study day. An explanatory letter, which included two copies of a consent form, were attached to the questionnaire. The explanatory letter and consent form were discussed with subjects. One copy of the consent form was retained by the participant, the other by the researcher. Subjects were told that if they chose not to participate in this research, they were still welcome to participate in the study day. Subjects were informed how to contact the investigator/researcher and how to withdraw from the study at any time.

Subjects were informed that questionnaires would be coded for statistical analysis, and then securely stored. When the results from the questionnaires were collated, group data only would be reported. Only the investigator would have access to the data and all questionnaires would be destroyed at the completion of the research. This ensured confidentiality for all participants.

### **Assumptions**

The following assumptions were made on the part of the researcher for the purpose of this study:

1. It was assumed that participants attending the workshop had a desire to learn about pain assessment and management.
2. It was assumed that because participation in the workshop was voluntary, nurses who chose to participate may have been more motivated to manage pain. This may have affected the level of knowledge gained.
3. It was assumed that participants would respond to the questionnaire to the best of their ability.
4. It was assumed that questionnaire responses would coincide with actual nursing knowledge and practices.

### **Methodological Limitations**

1. This study used a convenience sample and no control group, therefore the results need to be selectively interpreted.
2. The convenience sample for this study included both Registered (RNs) and State Enrolled Nurses (ENs). Although their educational preparation is different, both hold a responsibility for pain management.
3. Validity and reliability of the questionnaire used in this study requires further confirmation through replication.
4. The study could not control for the possibility that subjects may have been exposed to prior pain management education or other factors that may influence their questionnaire completion.
5. This study did not examine patient outcomes either before or after the workshop.

### **Chapter Summary**

This chapter outlined the methods and procedures for this study. Subjects in this study included RNs and ENs, from country hospitals and community centres in Western Australia, who were involved in direct patient care. The design was a one-group pretest-posttest-follow-up design using a

questionnaire for data collection. This questionnaire included items from four other researchers' questionnaires. These items for this study were adapted and developed by the researcher and an expert nurse. The questionnaire was tested for both reliability and validity and it is considered both reliable and valid. A pilot test was conducted in another state of Australia and this suggested that the questionnaire was suitable for a formal study. The procedures for this study were then discussed, as were the assumptions, limitations and ethical considerations. The next chapter presents the results of the data analysed during this study.

## **CHAPTER FIVE**

### **RESULTS**

#### **Introduction**

This chapter contains the results for this study. The purpose of this study was to assess nurses' knowledge of pain assessment and management, examine what change occurred immediately following a workshop on the subject, whether this change was related to subjects' demographic characteristics such as age, nursing experience, area of employment, level of practice, level of education, and previous education in pain management, and whether any changes were retained one month later. The workshop was presented by the researcher, on four separate occasions, at two country hospitals in Western Australia. A questionnaire was used to measure nurses' knowledge. Reliability and validity were determined for the questionnaire.

Firstly, this chapter will describe the subjects' demographic characteristics, then examine what changes occurred in knowledge for the tests as a whole, and relate this to the hypotheses for the study. Each item on the tests will be examined and compared for changes in performance across the three tests. The first section looks at pain assessment Items 2 to 19, the second at pain management Items 1, 23 to 32 and 34 to 49, and the third at responses to open-ended Items 1, 20 to 22, 33, 50 and 51.



### **Sample Characteristics**

The sample for this study consisted of 67 nurses who voluntarily attended a workshop on pain assessment and management at two country hospitals in Western Australia. All subjects who consented to participate in this study remained throughout the study. Selected demographic characteristics of the subjects are presented in Table 5.1.

As shown in Table 5.1, the 67 subjects (CN/RN/EN) consisted of 27 Level Two Clinical Nurses (CNs), 18 Level One Registered Nurses (RNs), and 22 State Enrolled Nurses (ENs). Among the CNs were two Community Nurses, two Staff Development Nurses and one Clinical Nurse Specialist. Community and Staff Development Nurses are Level Two in the Western Australian career structure, but the Clinical Nurse Specialist is a Level Three position. Because there was only one Clinical Nurse Specialist, this subject was included in the Level Two group (CNs). All subjects' primary training was hospital based rather than tertiary based, and all were involved in direct patient care.

The specific information shown in Table 5.1 consists of: the mean, standard deviation and range for subjects age and years of experience; and, by number and percentage, are the subjects in full time or part time employment; whether studying toward or completed a nursing degree; and whether they had previously attended pain education.

As shown in Table 5.1, the means for CNs' age (43) and years of experience (23) were higher than RNs (39 and 13) and ENs (37 and 14). Most of the RNs (89%) were in part-time employment, compared with just over half of the CNs (59%) and ENs (55%), and five CNs were working toward, or had, a tertiary nursing degree. More ENs (45%) had attended previous pain education than either CNs (41%) or RNs (22%).

Table 5.1

**Demographic Characteristics According to Level of Nurse (N = 67)**

Level	Age		Range	Exper <sup>b</sup>		Range F/T <sup>c</sup> %		P/T <sup>c</sup> %		Deg <sup>d</sup> %			Prev Ed <sup>e</sup> %	
of Nurses <sup>a</sup>	M	SD		M	SD									
CN/RN/EN	40	9.7	21 to 61	17	9.3	2 to 38	23	34	44	66	5	7	25	37
CN	43	8.7	28 to 61	23	7.8	9 to 38	11	41	16	59	5	19	11	41
RN	39	10.8	24 to 60	13	8.8	4 to 35	2	11	16	89	0	0	4	22
EN	37	8.8	21 to 52	14	8.4	2 to 31	10	45	12	55	0	0	10	45

Note. All subjects primary training was hospital based.

<sup>a</sup> CN/RN/EN:  $N = 67 = 100\%$ . CN:  $n = 27 = 100\%$ . RN:  $n = 18 = 100\%$ . EN:  $n = 22 = 100\%$ .

<sup>b</sup> Exper = years of experience. <sup>c</sup> F/T = full time. P/T = part time. <sup>d</sup> Deg = nursing degree.

<sup>e</sup> Prev Ed = previously attended pain management education.

The areas in which the subjects worked varied; with 23 subjects in maternity, medical, and/or surgical areas, 16 in combined roles in small country hospitals, 16 in gerontic nursing, and 12 in theatre, intensive care, and/or emergency units.

### **Presentation and Analysis of Data**

A one-group pretest-posttest-follow-up design was used in this study to see whether education on pain assessment and management was necessary, to examine whether a workshop was successful in changing nurses' knowledge of pain assessment and management, to examine whether this knowledge was retained one month later, and to see where the workshop needed to be changed.

### **Hypotheses**

This study was conducted in order to test the principal hypothesis that nurses' knowledge of pain assessment and management would increase after a pain assessment and management workshop and be retained over a period of one month.

Items 2 to 18 determined subjects' knowledge of pain assessment and Item 19 asked about documentation. These items required time for subjects to use the pain assessment methods taught before they could be tested to find out if they had been incorporated into daily nursing practice. For this reason, they were on the pretest and follow-up test only. The possible scores for pain assessment items ranged from 1 to 42 with a higher score indicating more knowledge. There was a significant difference on Items 2 to 19 between the pretest and follow-up test,  $t(66) = 6.78$ ,  $p < .001$ , see Table 5.2. This table shows the pretest and follow-up test means and standard deviations,

maximum score and range of scores for both tests. As shown in Table 5.2, the mean pretest score was 28.33 with a range of 33 points from 8 to 41 points, and the mean follow-up test score was 33.63 with a range of 22 points from 20 to 42 points. On the pretest, 24 subjects scored below the mean and 43 subjects scored above the mean. On the follow-up test, 28 subjects scored below the mean and 39 subjects scored above the mean. This difference between means was significant; indicating that subjects' pain assessment knowledge increased and was retained one month after a workshop.

**Table 5.2**  
**Changes in Results Between Pretest and Follow-up Test**  
**for Items 2 to 19 (N = 67)**

Test	Mean	SD	Range	Maximum Score	t
Pretest	28.33	5.8	8 to 41	42	6.78*
Follow-up	33.63	5.8	20 to 42		

Note. \*  $p < .001$ .

Items 1, 23 to 32, and 34 to 49, determined subjects' knowledge of pain management (including analgesia and alternative methods of pain control) and were repeated on the pretest, posttest and follow-up test. The possible scores for pain management items ranged from 1 to 60 with a higher score indicating more knowledge. There was a significant difference on Items 1, 23

to 32 and 34 to 49 between the pretest and posttest,  $t(66) = 22.07$ ,  $p < .001$ , see Table 5.3. However, there was no significant difference on Items 1, 23 to 32 and 34 to 49 between the posttest and follow-up,  $t(66) = 2.76$ ,  $p > .001$ . Information about the pretest, posttest and follow-up test means and standard deviations; maximum score and range of scores for the three tests are shown in Table 5.3. As shown in this table, the mean pretest score was 31.58 with a range of 30 points from 15 to 45 points, the mean posttest score was 47.24 with a range of 22 points from 34 to 56 points, and the mean follow-up test score was 45.55 with a range of 23 points from 32 to 55 points. On the pretest, 33 subjects scored below the mean and 34 subjects scored above the mean. On the posttest, 31 subjects scored below the mean and 36 subjects scored above the mean. On the follow-up test, 32 subjects scored below the mean and 35 subjects scored above the mean. The difference between means for the pretest and posttest was significant; indicating that subjects' pain management knowledge increased after a workshop. However, the difference between posttest and follow-up test means was not significant; indicating that the knowledge gained was retained one month later.

Table 5.3

**Changes in Results Between Pretest, Posttest and Follow-up Test for  
Items 1, 23 to 32 and 34 to 49 (N = 67)**

Test	Mean	SD	Range	Maximum Score	t Pre/Post	t Post/Follow
Pretest	31.58	6.8	15 to 45	60		
Posttest	47.24	5.1	34 to 56		22.07*	
Follow-up	45.55	5.3	32 to 55			2.76**

Note. \*  $p < .001$ . \*\*  $p > .001$ .

The principal hypothesis, that nurses' knowledge of pain assessment and management would increase after a workshop and be retained one month later, was supported in this study.

The following hypotheses examined the relationships between subjects' demographic characteristics and the results on each test. Each hypothesis will be dealt with separately.

H<sub>1</sub>. It was hypothesised: that there would be a relationship between nurses' age and nurses' knowledge of pain assessment and management.

The subjects' mean age was 40 years, with a range of 40 years from 21 to 61 years, see Table 5.1. There was no significant relationship found between

subjects' age and pain assessment Items 2 to 19, using Pearson's correlation coefficient, on the pretest ( $r = .11$ ;  $p > .05$ ) and follow-up test ( $r = .17$ ;  $p > .05$ ). There was no significant relationship found between subjects' age and pain management Items 1, 23 to 32, and 34 to 49, using Pearson's correlation coefficient, on the pretest ( $r = .07$ ;  $p > .05$ ), posttest ( $r = .05$ ;  $p > .05$ ) and follow-up test ( $r = .17$ ;  $p > .05$ ). Based on the above analyses, Hypothesis 1 was rejected.

H2. It was hypothesised: that there would be a relationship between years of nursing experience and nurses' knowledge of pain assessment and management.

The subjects' mean years of nursing experience was 17 years with a range of 36 years from 2 to 38 years of nursing experience, see Table 5.1. There was no significant relationship found between subjects' years of experience and pain assessment Items 2 to 19, using Pearson's correlation coefficient, on the pretest ( $r = .21$ ;  $p > .05$ ) and follow-up test ( $r = .19$ ;  $p > .05$ ). There was no significant relationship found between subjects' age and pain management Items 1, 23 to 32, and 34 to 49, using Pearson's correlation coefficient, on the pretest ( $r = .04$ ;  $p > .05$ ), posttest ( $r = .12$ ;  $p > .05$ ) and follow-up test ( $r = .21$ ;  $p > .05$ ). Based on the above analyses, Hypothesis 2 was rejected.

- H3. It was hypothesised: that there would be a relationship between nurses' area of employment and nurses' knowledge of pain assessment and management.

Subjects were employed in the following areas: 23 subjects were employed in maternity, medical, and/or surgical areas, 16 in combined roles in small country hospitals, 16 in gerontic nursing, and 12 in theatre, intensive care, and/or emergency units. A one-way Analysis of Variance demonstrated there was no significant relationship between subjects' area of employment and their knowledge of pain assessment. Results for items 2 to 19 on the pretest were  $F(3, 63) = 1.23$ ,  $p > .05$ , and on the follow-up test results were  $F(3, 63) = 1.01$ ,  $p > .05$ . A one-way Analysis of Variance demonstrated there was no significant relationship between subjects' area of employment and their pain management knowledge for Items 1, 23 to 32 and 34 to 49; results for the pretest were  $F(3, 63) = 2.48$ ,  $p > .05$ , posttest  $F(3, 63) = 0.82$ ,  $p > .05$ , and follow-up test  $F(3, 63) = 0.77$ ,  $p > .05$ . Based on the above analyses, Hypothesis 3 was rejected.

- H4. It was hypothesised: that there would be a relationship between nurses' level of practice and nurses' knowledge of pain assessment and management.



Subjects in this study were CNs ( $n = 27$ ), RNs ( $n = 18$ ) and ENs ( $n = 22$ ). Demographic characteristics are outlined in Table 5.1. A one-way Analysis of Variance demonstrated there was no significant relationship between subjects' level of practice and their knowledge of pain assessment, measured on Items 2 to 19; results on the pretest were  $F(2, 64) = 0.41$ ,  $p > .05$ , and on the follow-up test  $F(2, 64) = 0.60$ ,  $p > .05$ .

A one-way Analysis of Variance demonstrated there was a significant relationship between subjects' level of practice and their knowledge of pain management, measured on Items 1, 23 to 32, and 34 to 49; results on the pretest were  $F(2, 64) = 4.71$ ,  $p < .05$ , posttest  $F(2, 64) = 8.30$ ,  $p < .05$ , and on the follow-up test  $F(2, 64) = 9.38$ ,  $p < .05$ .

The changes in results for CNs, RNs and ENs for the three pain management knowledge tests are shown in Table 5.4. The information contained in this table consists of: pretest, posttest and follow-up test means, standard deviations and ranges of scores for pain management Items 1, 23 to 32, and 34 to 49, for each level of nurse examined. As shown in Table 5.4, the mean pain management scores for CNs (marked (a)), on the pretest and posttest were higher than RNs and ENs, and RNs (marked (b)), were higher than ENs. However, the mean pain management score for RNs (marked (c)), on the follow-up test was higher than CNs and ENs, and CNs (marked (d)), was higher than ENs.

**Table 5.4**  
**Changes in Results for Knowledge Items 1, 23 to 32, and 34 to 49**  
**According to Level of Nurse (N = 67)**

Level of Nurse	Pretest			Posttest			Follow-up		
	M	SD	Range	M	SD	Range	M	SD	Range
CN ( $n = 27$ )	34 <sup>a</sup>	6.1	22 to 45	50 <sup>a</sup>	3.9	43 to 56	47 <sup>d</sup>	4.9	37 to 55
RN ( $n = 18$ )	32 <sup>b</sup>	5.6	25 to 43	47 <sup>b</sup>	4.5	37 to 53	48 <sup>c</sup>	4.1	40 to 54
EN ( $n = 22$ )	28	7.4	15 to 41	44	5.4	34 to 55	42	5.1	32 to 50

Note. Maximum score = 60.

<sup>a</sup> CNs mean score higher than RNs and ENs. <sup>b</sup> RNs mean score higher than ENs.

<sup>c</sup> RNs mean score higher than CNs and ENs. <sup>d</sup> CNs mean score higher than ENs.

The data were further analysed using independent samples t-tests for the three levels of subjects in this study. As shown in Table 5.5, on the three tests (marked (a)), CNs had more knowledge and gained and retained more knowledge of pain management than ENs ( $p < .05$ ). On the follow-up test (marked (b)), RNs retained more knowledge of pain management than ENs ( $p < .05$ ). As shown in Table 5.5, there were no significant differences between the remaining levels of subjects and their knowledge as shown by independent samples t-tests ( $p > .05$ ). Based on the above analyses, Hypothesis 4 was rejected with the above exceptions.

**Table 5.5**  
**Changes in Results of t-tests for Items 1, 23 to 32, and 34 to 49**  
**According to Level of Nurse (N = 67)**

Level of Nurse	Pretest	Posttest	Follow-up
CN/RN	$t(43) = 1.45$	$t(43) = 1.87$	$t(43) = 1.28$
CN/EN	$t(47) = 2.96^{a*}$	$t(47) = 4.05^{a*}$	$t(47) = 3.13^{a*}$
RN/EN	$t(38) = 1.45$	$t(38) = 1.84$	$t(38) = 4.16^{b*}$

**Note.** <sup>a</sup> CNs had, gained and retained more than EN.

<sup>b</sup> RNs retained more knowledge than ENs.

\*  $p < .05$

H5. It was hypothesised: that there would be a relationship between nurses' level of education and nurses' knowledge of pain assessment and management.

Of the CNs in this study, five were studying toward or had completed a nursing degree. There was no significant difference, as shown by an independent samples t-test, between subjects who had or were working toward a nursing degree and those who had not participated in tertiary education. Results for pain assessment Items 2 to 19 on the pretest were  $t(65) = 1.67$ ,  $p > .05$ , and on the follow-up test  $t(65) = 1.29$ ;  $p > .05$ . Results for pain management Items 1, 23 to 32 and 34 to 49 on the pretest were  $t(65) = 1.38$ ;  $p > .05$ ,

posttest  $t(65) = 0.11$ ;  $p > .05$ , and follow-up test  $t(65) = 0.63$ ;  $p > .05$ . Based on the above analyses, Hypothesis 5 was rejected.

H<sub>6</sub>. It was hypothesised: that there would be a relationship between nurses' previous education in pain management and nurses' knowledge of pain assessment and management.

There was no significant difference, as shown by an independent samples t-test, between subjects who had, and those who had not, previously undertaken education in pain management. Results for pain assessment Items 2 to 19 on the pretest were  $t(65) = 1.19$ ,  $p > .05$ , and on the follow-up test  $t(65) = 1.52$ ;  $p > .05$ . Results for pain management Items 1, 23 to 32, and 34 to 49 on the pretest were  $t(65) = 0.64$ ,  $p > .05$ , on the posttest  $t(65) = 0.64$ ;  $p > .05$ , and on the follow-up test  $t(65) = 0.32$ ;  $p > .05$ . Based on the above analyses, Hypothesis 6 was rejected.

In this study, 23 subjects worked full time and 44 worked part time. An independent samples t-test demonstrated there was no significant difference between subjects working full time or part time and their knowledge of pain assessment and management. Results for pain assessment Items 2 to 19 on the pretest were  $t(65) = 0.07$ ,  $p > .05$ , and on the follow-up test  $t(65) = 0.90$ ;  $p > .05$ . Results for pain management Items 1, 23 to 32, and 34 to 49 on the pretest were  $t(65) = -0.47$ ,  $p > .05$ ; on the posttest  $t(65) = 0.23$ ;  $p > .05$ , and on the follow-up test  $t(65) = 0.90$ ;  $p > .05$ .

In contrast to the way the previous information for the tests has been reported, the following sections report results for each individual item on the questionnaire. The specific information contained in the tables for each item consists of: a brief description of the content item covered; the scores expressed as a percentage; and in brackets is the percent of change observed for each item across the tests. The footnote on each table shows the scores allocated for each item and the symbols used to highlight items discussed in text.

### **Results for Items 2 to 19**

Items 2 to 19 were in the pretest and follow-up test only. These items required time for subjects to implement them into their nursing practice and for this reason they were not included in the posttest. The results for pain assessment items 2 to 18, and documentation item 19, are in Table 5.6 and 5.7.

The results for items 2 to 14 (which required a yes/no/sometimes response) are summarised in Table 5.6. As shown in Table 5.6, items marked (a) increased by 10 to 39%, items marked (b) increased by 7 to 9% and items marked (c) decreased by 0 to 6%. Therefore, items marked (a) and (b) demonstrate a positive change in subjects' knowledge one month after the workshop. The pain assessment techniques more often used by subjects when assessing patients' pain were: location, quality and intensity of pain; onset and frequency; they asked what caused the pain and what relieved or aggravated it; and they assessed symptoms associated with pain. Pain

assessment techniques that were used infrequently prior to the workshop and more frequently following it were: a 0 to 10 scale, asking the time of day pain occurred and how patients' expressed their pain. Prior to the workshop, a few subjects (7%) awakened patients for analgesia. However, one month later, more than a quarter of the subjects (30%) were prepared to do so.

As shown in Table 5.6 (marked (c)), one month after the workshop, subjects used the following two pain assessment techniques less often: asking patients to rate their pain by the degree it hurt (i.e. hurts a "little" to "really" hurts), and comparing the pain to something (i.e. "How is it today compared to yesterday?"). When comparing the pretest and follow-up test scores, they revealed that 27% to 37% of subjects: never used a rating scale; did not inquire about the degree the pain hurt; did not ask what the pain was related to; did not ask the time of day the pain occurred; did not ask how patients' expressed pain; and did not wake patients for analgesia at night.

Table 5.6

**Summary of Responses for Assessment Items 2 to 14 Illustrating the Extent of  
Change Between Pretest and Follow-up Test (N = 67)**

Item Number	Pretest			Follow-up			Change
	Yes	No	Sometimes	Yes	No	Sometimes	
(2) location	85 <sup>b</sup>	0	15	94 <sup>b</sup>	0	6	(+9)
(3) quality	84 <sup>a</sup>	0	16	96 <sup>a</sup>	0	4	(+12)
(4) intensity	55 <sup>a</sup>	15	30	69 <sup>a</sup>	9	22	(+14)
(4a) scale 0-10	15 <sup>a</sup>	63	22	54 <sup>a</sup>	27	19	(+39)
(4b) degree it hurts	43 <sup>c</sup>	37	19	37 <sup>c</sup>	37	25	(-6)
(4c) related to	48 <sup>c</sup>	31	21	42 <sup>c</sup>	33	25	(-6)
(5) onset	88 <sup>b</sup>	3	9	96 <sup>b</sup>	0	4	(+8)
(6) duration	87	3	10	87	0	13	(0)
(7) frequency	61 <sup>a</sup>	6	33	72 <sup>a</sup>	3	25	(+11)
(8) time of day	30 <sup>a</sup>	37	33	40 <sup>a</sup>	21	39	(+10)
(9) causes pain	48 <sup>a</sup>	4	48	73 <sup>a</sup>	0	27	(+25)
(10) relieves pain	72 <sup>b</sup>	3	25	79 <sup>b</sup>	0	21	(+7)
(11) aggravates	69 <sup>b</sup>	6	25	78 <sup>b</sup>	1	21	(+9)
(12) assess symptoms	67 <sup>a</sup>	1	31	78 <sup>a</sup>	1	21	(+11)
(13) express pain	13 <sup>a</sup>	55	31	30 <sup>a</sup>	31	39	(+17)
(14) awaken patient	7 <sup>a</sup>	54	39	30 <sup>a</sup>	28	42	(+23)

**Scores.** Yes = 2, No = 0, Sometimes = 1.

**Note.** Responses = % of N = 67.

<sup>a</sup> Items increased by 10 to 39%. <sup>b</sup> Items increased by 7 to 9%. <sup>c</sup> Items decreased by 0 to 6%.

The results for Items 15 to 18 (requiring an often/never/sometimes response) and Item 19 (requiring a yes/no/sometimes response) are summarised in Table 5.7. As shown in Table 5.7, items marked (a) increased by 17% to 20% and one item marked (b) increased by 3%. Items marked (a) show that on the follow-up test, subjects more frequently: asked patients if they wanted to try interventions in addition to medication to control pain; assessed the meaning of patients' pain; inquired of the patient what had helped their pain in the past; and documented pain assessment findings. Item 17 (marked (b)), shows that subjects were reluctant to assess patients' previous experience with pain. When comparing the pretest and follow-up test scores, it is noted that 4% of subjects never documented their pain assessment findings, 3% never asked patients if they wanted to try interventions in addition to medication, and 6% never assessed the patient's previous pain experience.



Table 5.7

**Summary of Responses for Assessment and Document Items 15 to 19**  
**Illustrating the Extent of Change Between Pretest and Follow-up Test (N = 67)**

Item Number	Pretest			Follow-up			Change
	Often	Never	Sometimes	Often	Never	Sometimes	
(15) interventions	40 <sup>a</sup>	12	48	60 <sup>a</sup>	3	37	(+20)
(16) meaning	40 <sup>a</sup>	12	48	57 <sup>a</sup>	0	43	(+17)
(17) previous	36 <sup>b</sup>	19	45	39 <sup>b</sup>	6	55	(+3)
(18) helped pain	55 <sup>a</sup>	1	43	73 <sup>a</sup>	0	27	(+18)
	Yes	No	Sometimes	Yes	No	Sometimes	Change
(19) documentation	52 <sup>a</sup>	10	37	69 <sup>a</sup>	4	27	(+17)

**Scores.** Often = 2, Never = 0, Sometimes = 1. Yes = 2, No = 0, Sometimes = 1.

**Note.** Responses = % of N = 67.

<sup>a</sup> Items increased by 17 to 20%. <sup>b</sup> Item increased by 3%.

When comparing the pretest and follow-up test results for each item, the results revealed that there were positive changes in all but three of the items examined in this section.

### **Results for Items 1, 23 to 32 and 34 to 49**

Item 1 (worth two marks) is an open-ended item asking subjects to define pain. This item is examined further in the next section. Items 23 to 32 and 34 to 40 which required a true/false response, are related to subjects' knowledge of analgesia and alternative methods of pain control. Items 41 to 49 (which required a fill in the blanks or tick the option(s)) are related to subjects' knowledge of analgesia, placebos, chronic pain, and responsibility for relieving pain. These items are assessed in the pretest, posttest and follow-up test. Table 5.8 to 5.14 show the changes in results for this section.

The results for Items 1, 23 to 32 and 34 to 40 are summarised in Table 5.8. Overall, when comparing the pretest and posttest scores for these items, an increase in correct responses is shown. Most of the items showed an increase of between 12% to 48%, while items marked (a) showed an increase of between 2% to 8%.

As shown in Table 5.8, when comparing the posttest and follow-up test scores, nine items (marked (b)) decreased in response from 2% to 19%, while four items maintained the same score and five items increased by 1% to 6%. However it can be noted from this table, that in no case, did the score revert back to the pretest level.

Table 5.8

**Summary of Responses for Knowledge Items 1, 23 to 32 and 34 to 40****Illustrating the Extent of Change Between Three Tests (N = 67)**

Item Number	Pretest	Posttest	Change	Follow-up	Change
(1) define pain	6	52	(+46)	54	(+2)
(23) patient's assessment	87	99	(+12)	96 <sup>b</sup>	(-3)
(24) hourly flow sheet	34	49	(+15)	36 <sup>b</sup>	(-13)
(25) vital signs to verify	60	82	(+22)	87	(+5)
(26) distract from their pain	64	99	(+35)	96 <sup>b</sup>	(-3)
(27) patients may sleep	39	87	(+48)	90	(+3)
(28) stimuli/intensity of pain	88 <sup>a</sup>	90 <sup>a</sup>	(+2)	96	(+6)
(29) little taught about pain	88 <sup>a</sup>	96 <sup>a</sup>	(+8)	94 <sup>b</sup>	(-2)
(30) cut. stim. <sup>c</sup> (intensity)	93 <sup>a</sup>	99 <sup>a</sup>	(+6)	99	(0)
(31) cold/heat	52	94	(+42)	84 <sup>b</sup>	(-10)
(32) cut. stim. <sup>c</sup> (area)	42 <sup>a</sup>	48 <sup>a</sup>	(+6)	49	(+1)
(34) aspirin/Panadol <sup>d</sup> with	52	94	(+42)	85 <sup>b</sup>	(-9)
(35) promethazine-Phenergan	13	61	(+48)	42 <sup>b</sup>	(-19)
(36) sleep/sedation and relief	36	72	(+36)	75	(+3)
(37) morphine (> dose)	36	66	(+30)	55 <sup>b</sup>	(-11)
(38) pain relief measure	61	96	(+35)	96	(0)
(39) patient endure pain	94 <sup>a</sup>	100 <sup>a</sup>	(+6)	100	(0)
(40) equianalgesic dose	49	90	(+41)	75 <sup>b</sup>	(-15)

**Scores.** Correct = 2, Incorrect = 0. Item 1 - McCaffery's definition in full = 2, McCaffery's def. in part = 1.

**Note.** Responses = % of N = 67.

<sup>a</sup> Increase by 2% to 8% from pretest to posttest. <sup>b</sup> Decrease by 2% to 19% from posttest to follow-up test. <sup>c</sup> cut. stim. = cutaneous stimulation. <sup>d</sup> Panadol = paracetamol.

The responses from the three tests for Item 41 are in Table 5.9. This table shows that most subjects (78%) (marked (a)) changed their belief about the percentage of patients who they thought would become addicted to narcotics while in hospital. On the follow-up test, only 15% of subjects (marked (b)) thought that patients with organic pain become addicted to narcotics while in hospital compared with 60% who thought this was so prior to the workshop.

**Table 5.9**

**(I 41) Summary of Responses to Patients Who Become Addicted - Illustrating the Extent of Change Between Between Three Tests (N = 67)**

Response	Pretest	Posttest	Change	Follow-up	Change
Nil	31	6	(-25)	7	(+ 1)
< 1%	9 <sup>a</sup>	78 <sup>a</sup>	(+69)	78 <sup>a</sup>	( 0)
> 5%	60 <sup>b</sup>	16	(-44)	15 <sup>b</sup>	(- 1)

Scores. Nil = 1, <1% = 2, > 5% = 0.

Note. Responses = % of N = 67.

<sup>a</sup> Increase in responses for the tests. <sup>b</sup> Decrease in incorrect responses.

Item 42 asked subjects for the duration of action, in hours, for morphine, pethidine, codeine, and papaveretum (Omnopon). As shown in Table 5.10, there was an improvement in correct responses to morphine (marked (a)) by 43% on the posttest, and this increased by 3% on the follow-up. The improvement in responses for pethidine (marked (b)) was 69% on the posttest and this decreased by 8% on the follow-up test. Correct responses

for codeine (marked (c)) improved by 28% on the posttest and this increased by a further 11% on the follow-up. The responses for Omnopon (marked (d)) also improved on the posttest by 45% but decreased by 15% on the follow-up test.

Table 5.10

**(I.42) Summary of Responses for the Duration Action for Four Narcotics -  
Illustrating the Extent of Change Between Three Tests (N = 67)**

Response	Pretest	Posttest	Follow-up	Response	Pretest	Posttest	Follow-up
			Change				Change
<u>Morphine</u>				<u>Pethidine</u>			
Correct	25 <sup>a</sup>	67 <sup>a</sup>	(+42) 70 <sup>a</sup> (+3)	Correct	6 <sup>b</sup>	75 <sup>b</sup>	(+69) 67 <sup>b</sup> (-8)
Partly	22	13	16	Partly	16	12	15
Incorrect	52	16	13	Incorrect	78	13	18
<u>Codeine</u>				<u>Omnopon<sup>e</sup></u>			
Correct	9 <sup>c</sup>	37 <sup>c</sup>	(+28) 48 <sup>c</sup> (+11)	Correct	0 <sup>d</sup>	45 <sup>d</sup>	(+45) 30 <sup>d</sup> (-15)
Partly	25	21	18	Partly	43	33	33
Incorrect	66	42	34	Incorrect	57	22	37

Scores. Morphine: 3 to 4 hours = 2, 3 or 4 hours = 1, anything else = 0.

Pethidine: 2 to 3 hours = 2, 2 or 3 hours = 1, anything else = 0.

Codeine: 3 to 4 hours = 2, 3 or 4 hours = 1, anything else = 0.

<sup>e</sup> Omnopon = papavereturn: 3 to 5 hours = 2, 3 or 5 hours = 1, anything else = 0.

Note. Responses = % of N = 67. <sup>a</sup> <sup>c</sup> Increase in correct responses for tests. <sup>b</sup> <sup>d</sup> Increase in correct responses for posttest and a decrease from posttest to follow-up test.

Results for Item 43 and Item 44 are summarised in Table 5.11. As shown in Table 5.11 the majority of subjects (marked (a)) gave partly correct responses on all three tests for Item 43, however, there was an increase in correct responses between posttest and follow-up test but this result did not reach the pretest level. The drug which subjects felt had the most side effects was morphine, followed by pethidine and then codeine. Also shown in Table 5.11 is Item 44, on which 99% of subjects (marked (b)) gave the correct response and this decreased by 6% on the follow-up test.

Table 5.11

**(I 43) Summary of Responses to the  
Narcotic With the Most Side Effects**

**(I 44) Summary of Responses to the  
Drug of Choice for Terminal Patients**

**Illustrating the Extent of Change Between Three Tests (N = 67)**

Response	Pretest	Posttest	Follow-up		Response	Pretest	Posttest	Follow-up	
				Change					Change
Correct	15	4	(-11)	13 (+9)	Correct	97 <sup>b</sup>	99 <sup>b</sup> (+2)	93 <sup>b</sup> (-6)	
Partly	79 <sup>a</sup>	84 <sup>a</sup>		79 <sup>a</sup>	Partly	3	1	7	
Incorrect	6	12		7	Incorrect	0	0	0	

**Scores:** Morphine, pethidine and codeine = 2, anything less = 1.

**Note:** Responses = % of N = 67.

<sup>a</sup> Partly correct responses.

**Scores:** Morphine = 2, morphine + or - pethidine + or - codeine = 1,

anything less = 0.

**Note:** Responses = % of N = 67.

<sup>b</sup> Correct responses.

Results for Item 45 are summarised in Table 5.12 which shows that 93% of subjects (marked (a)), on the posttest, gave the correct response: "For breakthrough pain when titrating narcotics". Results for Item 46 are also summarised in Table 5.12. This table shows that 99% of subjects (marked (b)), on the posttest, gave the correct response: "In controlled research where the patient is told about possibility of a placebo". It can be seen from this table (marked (c)) that correct responses for both items decreased between posttest and follow-up test.

Table 5.12

**(I 45) Summary of Responses to  
Purpose PRN (as needed) Order**

**(I 46) Summary of Responses to  
Placebos**

**Illustrating the Extent of Change Between Three Tests (N = 67)**

Response	Pretest	Posttest	Follow-up		Response	Pretest	Posttest	Follow-up	
			Change	Change				Change	Change
Correct	60 <sup>a</sup>	93 <sup>a</sup>	(+33)	87 <sup>c</sup> (-6)	Correct	48 <sup>b</sup>	99 <sup>b</sup>	(+51)	91 <sup>c</sup> (-8)
Partly	7	0		4	Partly	10	1		4
Incorrect	33	7		9	Incorrect	39	0		4

**Scores.** For breakthrough pain = 2, + anything else marked = 1, anything else = 0.

**Scores.** Controlled research = 2, + anything else marked = 1, anything else = 0.

**Note.** Responses = % of N = 67.

**Note.** Responses = % of N = 67.

<sup>a</sup> <sup>b</sup> Correct responses. <sup>c</sup> Decrease in correct responses.

Results summarised in Table 5.13, for Item 47, show an increase of 28% on the posttest (marked (a)), but this decreased by 21% on the follow-up test (marked (b)). For this item, the majority of subjects (67% and 61%), on the pretest and follow-up test (marked (c)), gave a partly correct response. Similarly, most subjects (84% to 91%) were partly correct, on the three tests (marked (d)), for Item 48, also displayed in Table 5.13.

Table 5.13

(I 47) Summary of Responses to Changes Due to Chronic Pain      (I 48) Summary of Responses to Pain Patients Expect to Tolerate  
Illustrating the Extent of Change Between Three Tests (N = 67)

Response	Pretest	Posttest	Follow-up	Response	Pretest	Posttest	Follow-up
			Change				Change
Correct	21	49	(+28) <sup>a</sup> 28	Correct	10	7	(-3)
Partly	67 <sup>c</sup>	45	61 <sup>c</sup>	Partly	84 <sup>d</sup>	91 <sup>d</sup>	87 <sup>d</sup>
Incorrect	12	6	7	Incorrect	6	1	0

Scores. Mood status, activity level, sleep/eating = 2, anything else = 1, pulse, resps, blood pressure = 0.

Note. Responses = % of N = 67.

Scores. No pain + minimal pain = 2 + anything else marked = 1, no pain or minimal pain = 1, moderate or severe pain = 0.

Note. Responses = % of N = 67.

<sup>a</sup> Increase in responses. <sup>b</sup> Decrease in responses. <sup>c</sup> Partly correct responses. <sup>d</sup> Partly correct responses.



As shown in Table 5.14, no subject gave an incorrect response to Item 49. Most of the subjects, on the three tests, agreed it was a multidisciplinary team that was accountable for relieving pain. However, this table reveals that more subjects gave a correct response on the pretest than on the other two tests.

**Table 5.14**

**(I 49) Summary of Responses to Whose Accountable for Relieving Pain**  
**Illustrating the Extent of Change Between Three Tests (N = 67)**

Response	Pretest	Posttest	Change	Follow-up	Change
Correct	81	67	(-14)	78	(+11)
Partly	19	33		22	
Incorrect	0	0		0	

Scores. All = 2, physician, nurse, patient = 2, physician or nurse or patient = 1, none = 0.

Note. Responses = % of N = 67.

When comparing the pretest and posttest results for each item in this section, it can be seen that a positive change occurred, in subjects knowledge, for all but the last item on the posttest. Also, for three items in this section, subjects gave more partly correct responses than correct responses. The positive changes noted on the posttest were not maintained at the same level for some items on the follow-up test.

### **Results from Open-ended Items 1, 20 to 22, 33, 50, and 51**

The open-ended items analysed in this section are concerned with: the definition of pain; the types of patients who are given a thorough assessment; prejudices and misconceptions that hamper pain assessment; pain assessment techniques used in clinical areas; pain relieving techniques used other than medication; and the most difficult problem(s) encountered when nursing patients with acute and chronic pain. With the exception of Item 1, no marks were given for these items and they were not included in the posttest. In this section, percentages may exceed 100% because subjects were allowed to give more than one response to these items.

Item 1 asked subjects: "How would you define pain?" In contrast to the way this item was reported in Table 5.8, the percentages quoted are related to the number of subjects, whereas the percentages shown in Table 5.8 are the combined correct and partly correct scores for this item on each test. On the pretest, one subject quoted McCaffery's definition of pain in full and a few ( $n = 6$  or 9%) quoted it in part. On the posttest and follow-up test, less than half of the subjects ( $n = 28$  or 42% and  $n = 27$  or 40%) quoted McCaffery's definition of pain in full and on the posttest and follow-up test, less than a third ( $n = 14$  or 21% and  $n = 18$  or 29%) quoted it in part. However, when the results are combined, it shows that nearly two thirds of the subjects ( $n = 42$  or 63%) on the posttest and two thirds ( $n = 45$  or 67%) on the follow-up test quoted McCaffery's definition of pain in full or in part.

"Discomfort" was one word used when defining pain; more than a third of the subjects ( $n = 25$  or 37%) on the pretest, and less than a quarter ( $n = 10$  or 15%) on the posttest and ( $n = 5$  or 7%) follow-up test, used this word. The following are some of the statements made by subjects: "Discomfort can be emotional or physical". "Unreasonable discomfort of an intolerable level". "Discomfort of different intensity felt by a person". And "pain is a sensation that causes a person discomfort and distress".

"Individual", "subjective", "uncomfortable" and "unpleasant" were words also used by subjects when describing pain. The word "individual" was used by more than a third of the subjects ( $n = 25$  or 37%) on the pretest and by more than a quarter ( $n = 15$  or 22%) on the posttest. However, only a few ( $n = 5$  or 7%) on the follow-up test used this word. "Individual" was used in phrases as follows: "Pain is an individual experience of discomfort". "One's individual experience of suffering or distress". "An individual experience which alters the level of comfort". And "pain is individual, penetrating and powerful". "Subjective" was used by less than a quarter of the subjects ( $n = 10$  or 15%) on the pretest and ( $n = 8$  or 12%) posttest, and by a few subjects ( $n = 4$  or 6%) on the follow-up test. The following phrases were used by subjects: "Pain is a subjective experience causing stress". "Subjective state, difficult to define". "Subjective experience of discomfort of varying intensity". And "pain is subjective, only the person with the pain can explain the pain". "Uncomfortable" was another word used by a few subjects ( $n = 7$  or 10%) on the pretest and on the ( $n = 2$  or 3%) posttest and follow-up test. The word "uncomfortable" was used in the following statements:

"An uncomfortable, frightening sensation". "An uncomfortable, unpleasant, excruciating feeling". And "an uncomfortable feeling that cannot be measured". "Unpleasant" was also used by a few subjects ( $n = 4$  or 6%) on the pretest and by one subject on the posttest and follow-up test. The word "unpleasant" was used in the following phrases: "An unpleasant feeling". "An unpleasant sensation that effects a person physically and emotionally". And "an unpleasant feeling that alters our ability to cope".

Item 20 asked: "Which type of patients are given a more thorough assessment? Those in acute pain, chronic pain, or with a specific type of pain (cardiac vs cancer)?" Acute pain was nominated by three quarters of the subjects ( $n = 50$  or 75%) on the pretest and ( $n = 47$  or 70%) follow-up test. Whereas patients with chronic pain were nominated only a few times by subjects ( $n = 3$  or 5%) on the pretest and ( $n = 8$  or 12%) follow-up test. Patients experiencing a specific type of pain were nominated by less than a quarter of the subjects ( $n = 14$  or 21%) on the pretest and ( $n = 12$  or 18%) follow-up test.

The second section of Item 20 asked subjects to list the types of patients who received a thorough assessment. As shown in Table 5.15, patients in acute pain were again given top priority, while cardiac patients received second preference. Postsurgical and cancer patients were nominated equal third on the pretest. It can be seen from this table that there were more responses given on the follow-up test with little change occurring in the order in which patients were assessed. However, as shown on Table 5.15, more subjects (marked (a)) thoroughly assessed chronic pain sufferers after the workshop.

Table 5.15

**(I 20) List the Types of Patients Who Receive a Thorough Assessment and the  
Extent of Change Between Pretest and Follow-up Test (N = 67)**

Response	Pretest	Follow-up	Change	Response	Pretest	Follow-up	Change
acute pain	55	63	(+ 8)	chronic pain	15	33 <sup>a</sup>	(+18)
cardiac	45	55	(+10)	all in pain	12	18	(+ 6)
post surgical	25	40	(+15)	other	21	24	(+ 3)
cancer	25	30	(+ 5)				

Note. Subjects were given the opportunity for more than one response, therefore, the total may exceed 100%. In the "other" category the following were mentioned: headache, obstetrics, children, elderly, burns, leg ulcers, asthmatics, fractures, and joint pains.

<sup>a</sup> Increase is assessment of chronic pain.

Item 21 asked subjects to list any prejudices or misconceptions that hampered their assessment of a patient in pain. As shown in Table 5.16, responses were similar on the pretest and follow-up test. When comparing these results, it can be seen that responses decreased for most items on the follow-up test, and that some subjects (12%) felt that education improved their understanding of prejudices and misconceptions that hampered their pain assessments. The most frequently reported prejudices or misconceptions were: the appearance and/or attitude of the patient; cultural and/or language barriers; back pain and/or long term unrelieved pain; known drug users; and people who participate in activities of daily living or go for a smoke while in pain.

Table 5.16

**(I.21) Responses in Relation to Prejudices or Misconceptions and the Extent  
of Change Between Pretest and Follow-up Test (N = 67)**

Response	Pretest	Follow-up	Change
Appearance/ attitude of the patient	58	43	(-15)
Culture/language barrier	52	39	(-13)
Back pain/long term unrelieved pain	52	43	(- 9)
Known drug users/alcohol and drug abuse	39	39	( 0)
People who participate in activities of daily living while in pain/go for a smoke	39	31	(- 8)
Multiple previous admissions	30	24	(- 6)
The elderly can be difficult	13	12	(- 1)
Young children	10	10	( 0)
Aggressive patients	10	9	(- 1)
Preconceived ideas of staff about patients with frequent admissions	10	9	(- 1)
Loud expressions of pain	10	7	(- 3)
Denial of condition/patients who feel they are worrying staff	10	7	(- 3)
None/improving since education	0	12	(+12)

**Note.** Subjects were given the opportunity for more than one response, therefore, the total may exceed 100%.

Item 22 asked subjects how they were assessing patients' pain in the clinical setting. As shown in Table 5.17, responses marked (a) show an increase on the follow-up test for the following assessment criteria: using pain charts and/or assessment sheets; performing physical assessment and/or taking a previous history of the patient's pain; using a pain scale; documenting effectiveness of pain relief; and believing patients when they said they had pain. As shown in Table 5.17, responses for assessment criteria (marked (b)) show a decrease on the follow-up test: vital signs were relied on less often when assessing pain; and the type of operation undergone by the patient was not seen as so important when assessing pain.

Table 5.17

**(I 22) Responses on Assessing Patients' Pain in the Clinical Setting and the  
Extent of Change Between Pretest and Follow-up Test (N = 67)**

Response	Pretest	Follow-up	Change
Asking questions	43	57	(+14)
Patients' descriptions	39	43	(+ 4)
Observation	36	43	(+ 7)
Location, intensity etc.	33	39	(+ 6)
Vital signs	21 <sup>b</sup>	10 <sup>b</sup>	(- 11)
Pain/assess charts	9 <sup>a</sup>	51 <sup>a</sup>	(+42)
Physical assess/history	9 <sup>a</sup>	28 <sup>a</sup>	(+19)
Type of operation	9 <sup>b</sup>	0 <sup>b</sup>	(- 9)
Pain scale	7 <sup>a</sup>	34 <sup>a</sup>	(+27)
Flow sheet/document effect pain relief	3 <sup>a</sup>	28 <sup>a</sup>	(+25)
Believing patients	0 <sup>a</sup>	10 <sup>a</sup>	(+10)

**Note.** Subjects were given the opportunity for more than one response, therefore, the total may exceed 100%.    <sup>a</sup> Increase in responses.    <sup>b</sup> Decrease in responses.



Item 33 asked subjects to identify pain relieving techniques they had used other than medication. The most frequently used alternative therapy was heat, with most subjects ( $n = 59$  or 88%) on the pretest and ( $n = 60$  or 90%) follow-up test nominating this. Cold was the second alternative therapy mentioned, with more than half of the subjects ( $n = 35$  or 52%) nominating this on the pretest and ( $n = 40$  and 60%) on the follow-up test. Massage was also frequently mentioned by subjects ( $n = 34$  or 51%) on the pretest and ( $n = 55$  or 82%) on the follow-up test. Other alternative therapies mentioned by subjects were: position change ( $n = 29$  on the pretest and  $n = 18$  on the follow-up test); menthol rub or gel ( $n = 21$  on the pretest and  $n = 18$  on the follow-up test); relaxation ( $n = 17$  on the pretest and  $n = 18$  on the follow-up test); distraction ( $n = 15$  on the pretest and  $n = 18$  on the follow-up test); and TENS ( $n = 10$  on the pretest and  $n = 8$  on the follow-up test). Other pain relieving techniques mentioned, by one to three subjects, were: acupressure; acupuncture; breathing exercises; diversional therapy; communication and reassurance; guided imagery; hydrotherapy; music; meditation; sitting with a patient; stress management; therapeutic touch; visualisation; and a warm drink.

Subjects were also asked to identify the pain relieving techniques they were familiar with other than medication. Many subjects declined to respond to this section. Responses mentioned which were not included in the previous section were: aroma therapy; flotation tanks; prayer; reflexology; and use of colours.

Item 50 asked: "What is the most difficult problem(s) when nursing a patient in acute pain". As shown in Table 5.18, the most difficult problems for subjects before and after the workshop were: ascertaining the best method for treating pain; when analgesia was not effective resulting in unrelieved pain; getting doctors to order or increase analgesia; and doing pain assessments. The fear of side effects (marked (a)) on Table 5.18, was a problem mentioned by more than a quarter of the subjects ( $n = 19$  or 28%) on the pretest, but on the follow-up test only 3% ( $n = 2$ ) mentioned this as a problem. On the pretest, more than a quarter of the subjects ( $n = 12$  or 18%) (marked (b)) on Table 5.18, felt that their knowledge of the action and duration of drugs used for pain management posed difficulties. However, on the follow-up test, subjects did not mention the action and duration of drugs as a problem when nursing patients in acute pain. Other problems mentioned by subjects were: talking to doctors about pain relief; dealing with distress and allaying fears related to pain; dealing with co-workers misconceptions about pain; patients who mask their symptoms and distress; and obtaining family support for pain sufferers.

Table 5.18

**(150) Responses Most Difficult Problem(s) When Nursing Patients in Acute Pain and the Extent of Change Between Pretest and Follow-up Test (N = 67)**

Response	Pretest	Follow-up	Change
Ascertaining the best method of treating pain	54	49	(-5)
Unrelieved pain/ineffective analgesia	49	33	(-16)
Getting the doctor to order analgesia	46	43	(-3)
Pain assessment	45	48	(+3)
Fear of side effects	28 <sup>a</sup>	3 <sup>a</sup>	(-25)
Finding the right medication/pain relief technique	27	15	(-12)
Not knowing the answers/feeling inadequate	24	19	(-5)
Nursing staffs' reluctance to give analgesia	21	25	(+4)
Knowledge/action/duration of drugs (too much, too little, too late)	18 <sup>b</sup>	0 <sup>b</sup>	(-18)
Talking to doctors about pain relief	15	15	( 0)
Dealing with the distress/allaying fears	15	13	(-2)
Dealing with co-workers' misconceptions	13	21	(+8)
Patients who mask symptoms	7	7	( 0)
Obtaining family support	6	4	(-2)

**Note.** Subjects were given the opportunity for more than one response, therefore, the total may exceed 100%.

<sup>a</sup> Decrease in fear of side-effects of narcotics. <sup>b</sup> Increase in knowledge of drugs.

Item 50 also asked: "What is the most difficult problem(s) for you in nursing a patient in chronic pain". As shown in Table 5.19, more than a third of the subjects ( $n = 28$  or 42%) on the pretest and ( $n = 24$  or 36%) follow-up test (marked (a)), stated that maintaining their patient in a pain free state was a difficult problem. Ineffective and/or inadequate analgesia or treatment was also considered a problem for more than a third of the subjects ( $n = 24$  or 36%), marked (b) on the table. Less than a third of the subjects ( $n = 21$  or 31%) stated that patients who are dependent on or addicted to drugs were difficult to assess and manage, however, less than a quarter of the subjects ( $n = 14$  or 21%) stated this as a problem on the follow-up test, marked (c) on the table. It was interesting to note that after the workshop, more than a quarter of the subjects ( $n = 18$  or 27%) stated that they had difficulty having the 0 - 10 scale accepted by other staff, marked (d) on the table.

Other areas that subjects found difficult when nursing patients in chronic pain were: doctors who were reluctant to order analgesia; the off-handed manner of some doctors when nurses' requested analgesia for patients in pain; insufficient time to assess and discuss pain; the long term use of pethidine for chronic pain patients; overcoming the prejudices of some staff; and how to relieve pain with fewer side effects.

Table 5.19

**(I 50) Responses Most Difficult Problem(s) When Nursing Patients in Chronic Pain and the Extent of Change Between Pretest and Follow-up Test (N = 67)**

Response	Pretest	Follow-up	Change
Maintaining a pain free state	42 <sup>a</sup>	36 <sup>a</sup>	(- 6)
Ineffective/inadequate analgesia/treatment	36 <sup>b</sup>	36 <sup>b</sup>	( 0)
Patient dependence/addiction	31 <sup>c</sup>	21 <sup>c</sup>	(-11)
Assessment	30	27	(-3)
Chronic pain and headache often ignored (tobbed off)	28	36	(+ 8)
Doctors reluctance to order analgesia	28	25	(- 3)
Allaying anxiety patient/relatives	28	21	(- 7)
Insufficient time to assess/discuss	24	21	(- 3)
Offhanded manner of doctors	21	25	(+ 4)
Long term use of pethidine	19	13	(- 6)
Overcoming prejudices of staff	18	27	(+ 9)
Relieving pain with no side effects	16	10	(- 6)
Education of patient	15	9	(- 6)
Providing methods of pain relief	15	9	(- 6)
Understanding coping mechanisms	13	9	(- 4)
Feelings of frustration	12	10	(- 2)
The despair of chronic pain	10	10	( 0)
Is the pain real or put on	9	6	(- 3)
Stoic patients	4	4	( 0)
Acceptance of 0-10 scale by other staff	0	27 <sup>d</sup>	(+27)

**Note.** Subjects were given the opportunity for more than one response, therefore, the total may exceed 100%. a b c d Changes in results discussed in text.

The final item on the questionnaire asked subjects: "Is there anything else you would like to say on the subject of pain?" As shown in Table 5.20, a quarter of the subjects ( $n = 16$  or 24%) on the pretest and more than half ( $n = 35$  or 52%) on the follow-up test stated that more knowledge, education, and/or information about pain and its management was needed for all staff, marked (a) on the table. On the pretest, over a quarter of the subjects ( $n = 19$  or 28%) stated that doctors did not know enough about pain and its management, with nearly a third ( $n = 21$  or 31%) on the follow-up test having this view, marked (b) on the table. As shown in Table 5.20, overall responses increased on the follow-up test, with two exceptions, marked (c) on the table. Prior to the workshop, some subjects ( $n = 8$  or 12%) were frightened by or did not like their own pain experience, and one month after the workshop seven subjects (10%) still felt this way. Some subjects ( $n = 12$  or 18%), prior to the workshop, mentioned that pain was a difficult area to manage, however, following the workshop only nine subjects (13%) mentioned this. It is of interest to note that on the follow-up test, a quarter of the subjects ( $n = 17$  or 25%) mentioned that pain charts were a great help and a useful tool to use when assessing pain. Also, some subjects ( $n = 10$  or 15%) mentioned that patients are individuals and should be treated as such. Some subjects ( $n = 9$  or 13%) on the pretest and ( $n = 17$  or 25%) on the follow-up test mentioned that they would like a study day on alternative therapies for pain control and a third of the subjects ( $n = 21$  or 31%) mentioned that the course was worthwhile and should be repeated.

Table 5.20

**(I 51) Responses to Anything Else Subjects Wanted to Say About Pain and the Extent of Change Between Pretest and Follow-up Test (N = 67)**

Response	Pretest	Follow-up	Change
Knowledge, education, information to all staff,			
educate/re-educate	24 <sup>a</sup>	52 <sup>a</sup>	(+28)
Doctors don't know enough	28 <sup>b</sup>	31 <sup>b</sup>	(+3)
My own pain experience/frightened/don't like	12 <sup>c</sup>	10 <sup>c</sup>	(- 2)
Pain difficult area to manage	18 <sup>c</sup>	13 <sup>c</sup>	(- 5)
Study day on alternative therapies required	13	25	(+12)
Listen/communicate to your patient	13	16	(+3)
Subjective experience	13	19	(+6)
Pain charts (great, helpful, useful tool)	0	25	(+25)
Repeat the course/worthwhile info	0	31	(+31)
Patients are individuals	0	15	(+15)
Info on narcotic/infusion pumps	0	9	(+9)

**Note.** Subjects were given the opportunity for more than one response, therefore, the total may exceed 100%.

<sup>a</sup> More subjects aware of the need for education. <sup>b</sup> Doctors also lack knowledge. <sup>c</sup> Decrease in responses.

It can be seen from the tables in this section that subjects had many comments to make, and that education was considered important for changing the knowledge base of health professionals on the subject of pain and its management.

### **Summary of Findings**

In summary, statistically significant findings were demonstrated for the main hypothesis which proposed that nurses' knowledge would increase after a pain management workshop and that this knowledge would be retained one month later. Thus, the main hypothesis was supported ( $p < .001$ ). On the other hand, the remaining hypotheses that proposed there would be statistically significant findings between nurses' demographic characteristics and knowledge were not supported by this study with one exception. A significant relationship was found between some subjects knowledge of pain *management* and their level of practice. CNs had more knowledge, and gained and retained more knowledge of pain *management* than ENs. RNs retained more knowledge of pain *management* than ENs. In this study, there were three findings, related to subjects' demographic characteristics, that were of concern. The first was the finding that there was no significant relationship between subjects' knowledge of pain *assessment* and their level of practice, i.e. CNs, RNs, ENs. The second area of concern was that no significant difference was found between subjects' knowledge of pain assessment and management and their level of education, that is, nurses who had or were studying toward a nursing degree had no better knowledge. The third area of concern was that no significant difference was found between subjects who had attended previous education in pain management and those who had not.



This chapter also described the changes that occurred for each item on the tests. After the workshop, the majority of subjects recognised the importance of assessing location, quality, onset, duration, and causes of pain, what provides relief from pain, and what aggravates it. Subjects did not ask how the pain was today compared with yesterday, the time of day the pain occurred, and how patients usually expressed their pain. Subjects did not wake patients at night to give medication, nor did they inquire about the patients previous experience with pain. Documentation of pain assessments increased after the workshop, however a small number still did not document their findings.

Subjects in this study, after the workshop, were more ready to agree that: observable changes in vital signs must not be relied on to verify that a patient has pain; if the patient can be distracted from pain it did not mean the pain was not real; patients may sleep in spite of severe pain; cold often provides faster and longer pain relief than heat; giving aspirin or paracetamol along with narcotics is a logical method for increasing pain relief; if the patient is asleep or sedated this does not mean that the patient is pain free; the patient's report of pain should be believed; and that oral morphine is as effective as parenteral morphine in equianalgesic doses. Prior to the workshop, 40% of subjects indicated that less than 1% of patients become addicted to narcotics while in hospital, however after the workshop 85% agreed that this was so.

Following the workshop, more correct responses were noted regarding the duration of action time for morphine and pethidine than for codeine and

papaveretum. Subjects remained unsure of the side effects of narcotic drugs, and the majority of subjects selected morphine as the drug of choice for the terminally ill. Subjects were not confident in their answers when asked for the demonstrated changes in a patient experiencing chronic pain. However, the majority of subjects were sure that patients should experience either no pain or minimal pain.

Responses to the majority of open-ended items were abundant. After the workshop, 46% of subjects still did not quote McCaffery's definition of pain either partially or in full. Acute pain was assessed more thoroughly than other types of pain, and subjects listed many prejudices and misconceptions that hampered their pain assessments. Those misconceptions included: appearance and attitude of the patient; culture and language difficulties; and patients who had back pain. Subjects stated that they had used the following pain relieving techniques other than medication: heat and cold; massage; position change; menthol rub or gel; relaxation; distraction; and TENS. Subjects outlined many areas of difficulty when assessing acute and chronic pain, and felt that knowledge was very important to help them overcome those problem areas.

The following chapter summarises the findings for this research and compares them with other studies. Implications for nursing practice and recommendations for future research conclude the chapter.

## **CHAPTER SIX**

### **DISCUSSION**

#### **Introduction**

The results of this study contribute important information that lends support to the belief that education can change nurses' knowledge of pain assessment and management. The small convenience sample ( $N = 67$ ) in this study limits generalisation of the findings to the study population. However, this study does provide insight into Western Australian nurses' pain assessment and management knowledge and these results furnish useful information for education, nursing practice, and future research.

The results of the study supported the principal hypothesis that nurses' knowledge of pain assessment and management would increase following a workshop on the subject, and be retained one month later. Change theory provided a basis for educational strategies that positively changed nurses' knowledge of pain assessment and management, with the aim of improving patient care. The following is an elaboration of the findings which interprets the significance of the data in relation to the hypotheses of this study. In addition to the hypotheses certain supplementary findings are discussed. This discussion focuses on three main areas: pain assessment, pain management and acceptance of change. Inferences and conclusions are drawn, and comparisons for similarities and differences are made with the

existing body of research. Limitations of the study are discussed, followed by a summary and conclusions. Finally, implications for nursing practice are considered and recommendations and suggestions for further research made.

### **Major Findings**

The results of this study demonstrated that a significant change occurred in nurses' knowledge of pain assessment and management. It is expected that nurses will use this knowledge in their daily nursing practice and ultimately, patients in pain will benefit. This reaffirms previous findings by other researchers (Farley, 1988; Gosnell, 1984; Heick, 1981; Holzemer, Barkauskas & Ohlson, 1980; Kuramoto & Sandahl, 1980, Reaby, 1990; Valencius, 1980a, 1980b) who found that continuing education does make a difference in knowledge. An important finding in this study was the retention of knowledge by nurses as evidenced one month after the workshop. These findings confirm those of Myers (1985), although in her study, the retention test was conducted two weeks after a three hour education program on cancer pain management. The results of this study support previous findings (Cox & Baker, 1981; Oliver, 1984; Warmuth, 1987) which demonstrated that having the opportunity to practise a skill during an educational program and then apply that skill to nursing practice, is effective in terms of retention of knowledge. This is congruent with the principles of adult learning (Knowles, 1990).

Additionally, research was undertaken to examine what relationships existed between nurses' demographic characteristics and knowledge. This, and other studies (Cohen, 1980; Dudley & Holm, 1984) found that nurses' age and years in nursing practice did not affect their knowledge. And this study supported the finding by Dudley and Holm (1984), that nurses' area of employment did not affect their knowledge. The researcher acted on the claim by Keyzer (1989) and Sofaer (1985); that all levels of nurses needed to be actively involved in the proposed change for it to be successful. All levels of nurses involved in direct patient care were asked to participate in the workshop. Participative interaction was fostered during the presentation of the workshop by allowing time for nurses to role play given situations, trial new tools and discuss new knowledge in small groups and then with the entire group, and with the aid of mini-tests, discuss misconceptions and attitudes related to pain and its management, first in small groups and then with the entire group.

In this study, nurses' demographic characteristics had little influence on their knowledge, either before or after the workshop, with two exceptions: CNs had, gained and retained more pain *management* knowledge than ENs; and RNs retained more pain *management* knowledge than ENs. However, level of practice did not affect pain *assessment* knowledge. Given the difference in educational preparation for RNs and ENs in Western Australia, this study expected to find a significant relationship between all levels of nursing practice and nurses' knowledge of pain assessment and management. However, the delivery of direct patient care in the clinical setting is similar for

each level of nurse studied and this may have contributed to the results obtained in this study. In collaboration with the patient, the CN or RN formulates an appropriate plan of care for the patient in pain. The EN's role is to assist in the development of the care plan for the patient in pain, as well as assisting with implementing and evaluating it.

Two other findings, related to nurses' personal characteristics, were of concern in this study. The knowledge base of nurses who had, or were studying toward a nursing degree was the same as those who were not, and the knowledge base of nurses who had previous pain management education was the same as those who had not. Other studies (Cohen, 1980; Dudley & Holm, 1984; Myers, 1985; Watt-Watson, 1987) also found that nurses' level of education did not affect knowledge. It is not possible to compare the result of previous pain management education, as no other studies examined this. In Western Australia pain management education for nurses has been organised by hospital staff development with most of the information presented by doctors and pharmacists. This information may not be readily applicable to nursing practice, and may explain why nurses have not retained previously presented pain knowledge.

### **Pain Assessment**

Pain assessment is an important prerequisite to the adequate management of pain. Pre-workshop results indicated areas where nurses lacked pain assessment knowledge, and insight was gained about the way nurses were

assessing pain in the clinical setting. Subsequent results showed a positive change in nurses' knowledge of pain assessment, indicating they were using more pain assessment skills in the clinical setting.

During the course of the workshop nurses were asked to think about their definition of pain. Initially they found it difficult to express their feelings and emotions in relation to their own experiences with pain. During the ensuing discussion key concepts emerged. They reported that pain was a very private experience, and it was unique to the person experiencing the pain. Pain entailed some type of suffering for most people and often had a negative side to it. Nurses shared words such as anger, depression, despair, fear, guilt, helplessness, hopelessness, hurt, shame and the frustration of immobility in relation to pain experiences. The majority of nurses in the study sample had not heard of McCaffery's definition of pain prior to the workshop, however by the end of the workshop two thirds of the nurses quoted this definition in full or in part.

Initially, very few nurses used a pain chart or a rating scale when they were assessing pain in the clinical setting. However, following the workshop more nurses regularly used a 0 to 10 rating scale. Some (27%) mentioned that when they used this scale in the clinical setting they had difficulty getting other staff to accept it. This result reaffirmed previous findings (Berker & Hughes, 1990; Murray, 1984; Watt-Watson, 1987) that many nurses were not using a standard approach to pain assessment.

In this study, nurses reported that acute pain sufferers were given a more thorough assessment than chronic pain sufferers and commented that chronic pain was difficult to assess. This confirms findings from earlier works (Hoyt & Sparger, 1984; Watt-Watson, 1987) that assessment of patients with chronic pain was the most difficult. Chronic pain patients may present unpredictable and problematic responses to their pain, and for this reason, nurses may have preconceived ideas about those patients. In this study, many nurses were aware that they had prejudices and misconceptions that hampered their assessment of chronic pain patients. A patient's behaviour can strongly influence a nurse's willingness to accept a patient's pain rating, and can influence their decision to administer higher doses of narcotic analgesics (McCaffery & Ferrell, 1991b). Nurses may also become frustrated when the patient's pain does not diminish when treated with analgesics and the patient requests more pain relief.

Nurses in this study were reluctant to awaken their patients to give analgesia, although after the workshop, they were more inclined to do so. They may have believed that patients are pain free when they are asleep, or feel they should not disturb the patient.

A further issue with pain assessment relates to prejudices or misconceptions that were barriers to nurses' pain assessments. These barriers decreased by only one to 15% after the workshop. More than half of the nurses felt that the appearance and/or attitude of a patient could influence their pain assessments; they had misconceptions about patients of a different culture;



they had preconceived ideas about patients with back pain and others who could participate in activities, such as laughing with relatives or going to a designated area for a smoke, while in pain. Furthermore, some nurses mentioned that they had prejudices or misconceptions about patients who were known drug users, young children, alcohol and drug abusers and the elderly. Prejudices and misconceptions are related to nurses beliefs, values and attitudes and these can be difficult to change. However, during the workshop nurses reported that the biggest problem when addressing these issues was their own lack of knowledge and experience and that of other health professionals. In the light of this information, pain assessment and management educational programs should be made available to all nurses. A major emphasis of these programs needs to be on misconceptions and prejudices that hamper nurses' pain assessments with time allowed for nurses to discuss them.

Nurses know that documentation is something they must do. However, following the workshop, only two thirds of the nurses responded that they regularly documented their pain findings with a small number (4%) of RNs never documenting this information. This may be due to: less available time to carry out documentation; insufficient knowledge about documentation; lack of legal awareness; or that verbal reporting may have been the usual way of passing on information concerning patients. Reluctance by some nurses to document pain information is of concern because vital information may be lost, which could threaten the quality and continuity of patient care. Camp-Sorrell and O'Sullivan's (1991) study found that there was no significant

difference in documentation techniques of nurses who had participated in education and nurses who had not. They attributed this anomaly to lack of follow up reinforcement in the clinical setting, after education.

These results indicate that nurses were weaving new information into their existing body of knowledge. Pain assessment can be affected by nurses' personal values, beliefs, and expectations, and by those of other health team members. Awareness of those values and beliefs can be the key to avoiding faulty conclusions about patients' pain. Nurses need to become more aware of factors that may affect their assessments of patients in pain, they need to be conscious of how this influences their subsequent decisions about interventions, while continually striving for optimal pain management.

### **Pain Management**

Results for pain management items showed a marked improvement for most items on the posttest and this was carried through to the follow-up test. Although some items did not obtain a high score, the positive results obtained for items in this section confirmed that the workshop was successful in improving nurses' pain management knowledge. Pre-workshop results indicate factors that should be of concern to nurse educators and nurse managers. The results for this section demonstrate the importance of education and continuing education for changing nurses' knowledge, beliefs and attitudes about pain and its management.

Following the workshop, there was agreement among the nurses that giving aspirin or paracetamol (Panadol) with narcotics was a logical method of increasing pain relief. However, a few did not retain this information one month later. Reasons for this could be that nurses may not have sufficient support to use this knowledge about the use of aspirin or paracetamol with narcotics, they may lack knowledge of or fear drug interaction or they may not have encountered the use of these drugs together in their nursing practice.

During a workshop discussion many commented that there should be a known cause for pain. However, after the workshop more nurses felt that pain relief measures should be determined on the patient's report of pain intensity. These results indicate that nurses are prepared to change their preconceived ideas, treat patients as individuals, and believe what the patient tells them. This is desirable for its relationship to quality patient care and change in nurses' attitudes.

In this study, after the workshop, more nurses (90%) understood that oral morphine was as effective as parenteral morphine in equianalgesic doses. However, only three quarters retained this information one month later. During the pretest, nurses asked the meaning of the word equianalgesic and commented that they were not familiar with its use in their clinical areas. This may be a reason why they did not retain this knowledge over one month. Also, if nurses were not using equianalgesic doses in their daily practice, their knowledge would decrease over time. Similarly, Watt-Watson (1987) reported that nurses did not know the equianalgesic doses of analgesic drugs.

An important finding of this study was that nearly two thirds of the nurses initially believed that 5% or more of patients with organic pain become addicted to narcotics while in hospital. This finding supports McCaffery and Ferrell's (1992) claim that aggressive educational efforts are needed in Australia to reduce the percentage of nurses who have an exaggerated fear of addiction. However, following the workshop only ten still believed this. This is a positive result in relation to continued education and patient care, because when nurses reduce their fear of addiction, under-treatment of pain with narcotics is less likely to happen. The majority of participants in other studies (Lander, 1990; McCaffery et al., 1990; Watt-Watson, 1987) also believed that the percentage of patients addicted to narcotics while in hospital was greater than one percent. The fear of addiction was a reason frequently given by nurses (McCaffery & Beebe, 1989) and doctors (Marks & Sachar, 1973) for the under-treatment of pain with narcotics. It is crucial, for the benefit of patient care, to change the preconceived ideas held by nurses and other health care professionals about the level of addiction related to medical use of narcotics.

Following the workshop, nurses improved their understanding of the duration of action of morphine and codeine, and maintained or improved this knowledge over time. They also improved their knowledge of the duration of action for pethidine and papaveretum (Omnopon), but over time lost some of this knowledge. This may be due to how these drugs are used in clinical practice, i.e. pethidine is frequently ordered four hourly, and not two to three hourly as recommended and papaveretum is used more frequently as a

premedication. This may be the reason why some nurses did not retain this knowledge. The pretest findings from this study are similar to those from Watt-Watson's (1987), who found that nurses' lacked knowledge of the duration of action for specified narcotic analgesics.

Prior to the workshop, one third of the nurses felt that the pro re nata (PRN or "as needed") order was to prevent tolerance and addiction, or decrease overdose liability and that placebos could be given to see if pain was real, or could be given to patients who require more medication than necessary. However, following the workshop very few gave these incorrect responses. Again, these findings show that education can positively change outmoded beliefs and subsequently knowledge about pain. In Watt-Watson's (1987) study, one third of the sample believed that the PRN order was given to prevent tolerance and addiction, and that placebos were given to determine whether pain was real.

After the workshop, about half of the nurses agreed that a patient experiencing chronic pain may not demonstrate changes in vital signs, but one month later, less than a third agreed with this. This result may demonstrate that nurses' lacked knowledge about chronic pain, and that they adhere to the medical model when working with chronic pain sufferers. In Watt-Watson's (1987) study, the majority of participants also expected vital signs to change in chronic pain patients and this is supported by McCaffery and Ferrell (1991, 1992) who reported that nurses were influenced by the differences in vital signs and not by the patient's pain rating. Chin and Benne (1969) stated that

some resistance to change occurs when people are committed to socio-cultural values that underpin their actions. Nurses have used and relied on the medical model for health care, therefore, some nurses may have difficulty accepting a patient's pain rating in preference to vital signs.

Only a few nurses (13%), prior to the workshop, knew that promethazine (Phenergan) was not a reliable potentiator of narcotic analgesics. After the workshop, nearly two thirds (61%) knew this, however, one month later, less than half (42%) did so. A reason they did not remain convinced may be that doctors continue to order promethazine as a potentiator of narcotic analgesics. This finding showed the difficulty in changing a belief that has been held by doctors and nurses for a long time. This could also be due to the "expert" view that the public hold of doctors. Romyn (1992) identified that doctors and nurses have a deficit of knowledge about which drugs can and cannot potentiate the effect of an analgesic. And they were not aware of harmful interactions between analgesics and other drugs.

Prior to the workshop, only a third of those in this study agreed that when the dosage of morphine was increased, pain relief would also increase. Immediately after the workshop, this increased to two thirds, however, one month later just over half retained this knowledge. This decrease in knowledge may be because nurses did not remember that morphine does not have a "ceiling" effect, that is beyond a certain dosage, increased analgesia will not occur; or they may fear using this drug in large quantities.

Prior to and following the workshop, nurses nominated that they used a variety of pain relieving techniques, with heat being mentioned more often than any other. After the workshop, cold was mentioned as the second most frequent alternative therapy. Furthermore, awareness increased among the nurses that cold often provides faster and longer pain relief than heat. However, there was a decrease in this knowledge one month after the workshop. The decrease in knowledge may be attributed to the fact that the majority of people prefer to use heat rather than cold and that nurses have not had sufficient practice in educating patients to the benefits of cold applications.

Less than half of the nurses understood that cutaneous stimulation such as cold or massage could be used in an area away from the pain and still give pain relief. Only a few nurses improved their knowledge of this after the workshop. Nurses may not have had education, or available resources, on how to use these alternative therapies to relieve pain in the clinical area. Dalton (1989) reported that nurses were familiar with many alternative methods of pain control, however, alternative methods of pain control were used less than 25% of the time. In hospital, patients are offered a limited range of treatments and nurses attach greater importance to analgesic administration than they do to alternative methods of pain control (Saxey, 1986).

The results for individual items in this study demonstrated that nurses positively changed their knowledge of pain management and the majority retained this knowledge one month later. The retention results for a few items

demonstrated that the perceived change in knowledge was not seen as compatible to old methods, that is, the new knowledge did not fit in with existing values and beliefs. However, overall the results of this study are encouraging because beliefs, values and attitudes are often deeply ingrained and can be difficult to change in a short period of time.

### **Acceptance of Change**

Education in pain assessment and management is about continuous and rapid change in knowledge with the aim of improving patient care. Nurses need to maintain a high rate of change to keep abreast of new initiatives and to integrate new knowledge into clinical nursing practice. Change requires understanding and sensitivity to the needs and fears of the people who are affected by it because for change to be successful people must change beliefs, values and attitudes, i.e. they must discard old, outmoded knowledge for new knowledge. Change can be disruptive because it requires adaption which can only be made on an individual and personal level. For these reasons only some of the target population will respond to the need for education and some will be selective in what they accept of the new information.

Change theory utilised in this study was based on assumptions by Chin and Benne (1969). The first assumption was that the system to be changed would be relatively passive or have a neutral attitude. The nurses who participated in the workshop did so on a voluntary basis and it was therefore assumed that



they had recognised a need for change in the way pain was assessed and managed, identified a level of dissatisfaction with the status quo and did not feel unduly threatened by change, i.e. nurses were aware of why they were attending the workshop.

The second assumption was that the people involved in the change would be rational and they would pursue their own self-interest once they knew what those interests were. It was assumed that the nurses in this study were ready and committed to change their pain knowledge. Also, when people seek information they are more likely to see the value of the proposed change and adopt it (Wright, 1989). The rational-empirical model works best when the change that has been planned is delivered in an easy to understand manner that does not unduly provoke the target group. A change is more easily communicated and accepted when the target group can see the advantages of the new knowledge over the old.

The third assumption was that nurses' knowledge would improve because of the knowledge taught and that this would result in improved patient care. The first part of this assumption is supported by the results of this study and it is assumed that because the knowledge was retained one month later it has resulted in improved patient care.

The fourth assumption was that some people would resist change because of the values and beliefs that underpin their actions. However, it was expected that this resistance in individuals could be overcome. The workshop

combined both an educational and a emotional component and it is assumed that this assisted nurses to positively change their pain assessment and management knowledge. An open discussion format, demonstrations, role play and mini-tests were included in the workshop to stimulate and motivate nurses to join in discussions thus encouraging them to become actively involved in the learning process by sharing their experiences and feelings. The positive results on the tests demonstrated that some resistance to change was overcome, thereby influencing the subjects to abandon their old commitments and adopt new ones in relation to the need for change in pain assessment and management. However, not all outmoded beliefs were changed. This could be because too many changes were introduced in a short period of time and this may have elicited some resistance, or it may be that some were not easily persuaded to change because the new knowledge conflicted with old beliefs and values or familiar habits may have been hard to change or the change may have been seen as threatening to some nurses.

The fifth assumption was that the change agent and target group would be active participants in the change. The positive results of this study indicate that the researcher provided knowledge and sound reasons for change, and that those attending the workshop perceived it as being personally advantageous for acquiring new knowledge. Pain assessment and management can only advance when nurses question what they are doing and try to find better ways for relieving pain.

The sixth assumption was that the normative-reeducative strategy for change had medium power. An aim of planned change is to encourage growth and development of knowledge by providing that knowledge, combined with rational choices. This in turn should strengthen self-awareness, self-understanding and self-control thereby promoting a more even distribution of power. Objectives were set for the workshop and information presented during the workshop was situation and problem specific. During practice sessions, reinforcement and support was given when nurses strived to grasp new knowledge and skills. They were encouraged to be assertive when providing pain relief for patients in pain. To assist them achieve this, they were shown how: to use pain assessment tools to support their requests for adjustments or increases or changes in analgesic medication, for revising pain management regimes and for the use of alternative methods of pain control; to use research to support and promote the use of pain assessment tools, to promote the non use of potentiators, to substantiate that very few patients become addicted to narcotics while in hospital, to demonstrate that misconceptions and prejudices create problems for many nurses and other health professionals, to raise awareness of the differences between acute and chronic pain and to promote alternative methods of pain control; to use a flow sheet to document and compare the results of giving a narcotic plus or minus other drugs; and to use expert committee reports, or opinions and/or clinical experiences of respected authorities to support the use of their new found knowledge in their nursing practice.

Reasoning and thinking need to be applied to the new knowledge before retention and understanding of that knowledge can be achieved (Collart, 1976). Making changes in pain assessment and management requires some risk on the part of the target group when implementing this new found knowledge into clinical nursing practice. This is another reason why nurses were shown how to use research and pain assessment tools to support their newly acquired knowledge and skills. The results observed in this study, between the posttest and follow-up test, showed that the knowledge acquired during the workshop was retained and it is assumed that this knowledge provided nurses with some security for overcoming resistance when integrating it into clinical nursing practice. Thus armed, nurses are not left merely to react but indeed have the knowledge to be proactive and so alter the way pain is assessed and managed.

Overall, it seems that nurses have learnt a great deal from the workshop, but the findings imply that they still require more knowledge about some aspects of pain assessment and management. The pretest findings demonstrated that pain assessment and management education was necessary and show where pain was being spasmodically assessed and where nurses' lacked knowledge about pain management. These findings should be of concern to all nurses and, in particular, nurse educators and managers.

Analysis of the distribution of errors made on the posttest show where the workshop requires further improvement. However, the workshop addressed many thought-provoking issues pertinent to caring for patients in pain and

recommended a great deal of change. Changes in knowledge tend to be easiest to make when they are not related to changes in beliefs, attitudes and traditions. Many of the knowledge deficits noted after the workshop were related to emotionally charged issues such as: McCaffery's definition of pain; the intensity and rating of pain using a scale; using verbal descriptors such as inquiring the time of day the pain occurred and how patients' expressed their pain; patients' previous experience with pain; night-time pain and the use of analgesics; the use of potentiators and narcotic analgesics; and the difference between acute and chronic pain. Other knowledge deficits noted were: the placement of cutaneous stimulation; the duration of action for narcotic analgesics; and the side effects of narcotic analgesics. Therefore, in future workshops, it is recommended that less time be allocated for structured teaching and greater emphasis be placed upon communication, with more discussion and reflection, case study analysis, more problem solving activities and time allowed to address nurses' fears and worries about the proposed changes.

### **Limitations**

Although the study design for this research lacked experimental control, the results demonstrated that change theory was a useful conceptual framework for this study and workshop designed for updating and changing nurses' knowledge of pain assessment and management. A study using a control group could provide more insight into the effects of a workshop on nurses' knowledge. However, the method of evaluation was able to demonstrate that

the workshop did create conditions in which nurses were motivated and committed to learning. Whilst the findings of this study may not be generalised due to the use of a convenience sample and small sample size, the results yielded information for nurse educators and planners of future pain programs. Also, to the extent that other nurses, or other nursing care work conditions may be similar, some general conclusions can be inferred.

Nurses' responses to pain assessment items could have been influenced not only by knowledge but also because the questions may have guided their answers or they may have given what they thought was the socially correct answer. There was no control over other variables such as nurses undertaking extra reading, previous knowledge that had been forgotten or learning styles that may have influenced their knowledge retention and therefore influenced the changes noted in this study. Furthermore, nurses may have used notes from the workshop when answering the follow-up test and this may have influenced results. Another potential weakness of this study was that a workshop approach of one-day duration did not allow nurses to choose the way they preferred to be taught and this may have influenced results. Also, the relatively short time period of one month between the workshop and follow-up test may not be a true indication of whether nurses will maintain this knowledge. Additionally, the instrument used to measure knowledge was devised for this study and had only been tested for validity and reliability with a small sample prior to this investigation. Validity and reliability of this tool, therefore, requires further confirmation through replication.

Nurse educators need to be continually providing planned, up-to-date, proactive knowledge if change in pain assessment and management is to be successful. Continued, flexible ongoing education is required for nurses engaged in direct patient care, and they need to be encouraged and supported to continue to develop their pain assessment and management knowledge and skills.

The information related to alternative methods of pain, because of time constraints, could only be given as an overview, therefore, another workshop addressing this topic would be beneficial. After the workshop, a quarter of the nurses requested a study day on alternative therapies for pain control.

### **Summary**

A study, using a one-group pretest-posttest-follow-up design, was conducted to evaluate a workshop on pain assessment and management for nurses. This study was guided by a theory of change. A one-day workshop was presented on four separate occasions at two large country hospitals in Western Australian. The subjects ( $N = 67$ ) were a convenience sample of RNs and ENs employed by those hospitals, surrounding smaller hospitals and community centres. All were involved in direct patient care. The questionnaire used to examine nurses' knowledge of pain assessment and management was from the work of four researchers. Items from their questionnaires were adapted and developed for this study, by the researcher and an expert nurse. Reliability and validity were determined for the

questionnaire. At the start of the workshop, subjects were given 30 minutes to complete the knowledge and demographic data questionnaire, on completion of the workshop they were given 15 minutes to complete an abbreviated form of the knowledge questionnaire. One month after the workshop, the complete knowledge questionnaire was posted to and returned by subjects.

### **Conclusions**

Based on the data and findings, the following conclusions seem warranted:

1. That including different levels of nurses in a one-day workshop on pain assessment and management is an effective way of positively changing the knowledge base of nurses who are responsible for pain assessment and management.
2. Pretest findings generally confirmed those of earlier research, and indicate a need for education on pain assessment and management.
3. This study identified what knowledge levels existed and has generated a beginning knowledge base of Western Australian country nurses' knowledge of pain assessment and management.



### **Implications for Nursing Practice**

The results of this study have several implications for nurses involved in the care of patients in pain, nurse educators and nurse managers. Prior to the workshop, most nurses had not heard of McCaffery's definition of pain, no standard approach to pain assessment was evident, nurses' lacked knowledge of the difference between acute and chronic pain, documenting of pain assessments was inconsistent, nurses' lacked knowledge about analgesics, they feared addiction, and they had many prejudices and misconceptions that influenced their pain assessment decisions.

If the assumption is accepted that increased knowledge about pain assessment and management will result in improved patient care, then the results of this study suggest that further education is needed. Although the subjects in this study were country nurses, the more nurses whose knowledge can be improved, the better the care for patients in pain. Furthermore, nurse clinicians, educators, and managers must take up the challenge to educate and support the application of new and better ways of assessing and managing pain in the clinical setting. With support and encouragement more widespread change is more likely to occur. The aim of pain education should be to improve nursing care so that quality pain management becomes the norm thereby providing patients with a more comfortable and speedy recovery or a more peaceful, pain free death. Also, it should increase job satisfaction for nurses involved in direct patient care and decrease costs related to pain management.

The information from this study should prove helpful to other researchers and nursing staff in providing them with base-line data of nurses' knowledge of pain assessment, analgesic administration and alternative methods of pain control. This study highlighted areas of strength and weakness in pain assessment and management among nurses. This knowledge should benefit staff development nurses by helping them to determine and meet educational needs of colleagues regarding pain assessment and management.

Although the impact of the workshop on patient care has not been examined, it can be concluded that education has the potential to influence patient care. Pain assessment and management techniques are constantly changing and expanding. Therefore education is vital so that nurses have the ability to change the way pain is currently managed thereby meeting the needs of patients. In essence although this study focused on a workshop to change nurses' knowledge of pain assessment and management, Chin and Benne's theory of change has potential as a conceptual framework for educational programs.

### **Recommendations**

Based on the findings and conclusions, the following recommendations are made:

1. That pain education be encouraged and supported in educational institutions for nurses, professional nursing organisations, hospitals, and all areas where nurses are employed.

2. All health professionals involved in the assessment and management of people in pain be required to participate in ongoing education.
3. Within hospitals, pain assessment and management workshops could be offered several times each month, at different hours of the day, evening and night, to make them accessible to all health professionals and in particular to nurses. In remote country areas, where access is difficult, videos could be the method used to educate nurses.
4. Reference books and journal articles on pain management be made available for all nurses involved in direct patient care.

#### **Projected Recommendations**

1. That hospitals be encouraged to establish pain assessment and management teams.
2. That a quality assurance pain management clinical review team be set up within the Health Department of Western Australian to establish and maintain standards for pain assessment and management.
3. That formal pain assessment tools be mandatory for documenting pain assessment and management within all health care institutions.

5. That public education be promoted to increase patients' knowledge about pain and its elimination or control.
6. That more funding be made available for pain research.

### **Further Research**

This was the first Western Australian study to evaluate the change a workshop had on nurses' knowledge of pain assessment and management. Therefore, this research needs to be replicated in another area of this state, to provide further support for, or refute, the findings in this study.

Based on the findings from this study, it is recommended that future research be directed toward the following areas:

1. A longitudinal study to determine how long nurses' retain knowledge of pain assessment and management, the effects of this change on clinical practice, and the effect of increasing the knowledge of some nurses on the clinical practice of their peers.
2. A study of the techniques and tools nurses use to assess pain in the clinical setting.
3. A study to examine nursing documentation before and after a workshop on pain assessment and management.

5. **Alternative therapies:** the reasons why nurses do not use alternative therapies (e.g. lack of time, lack of knowledge, peer pressure, or they don't believe alternative therapies work), and how frequently alternative therapies are used in conjunction with medication for the management of pain.
6. **Nurses' beliefs, personal pain experiences, and how these affect the management of patients in pain** could be studied.
7. **A study should address the influence of nursing education about pain assessment and management on quality patient care.**
8. **Factors that facilitate or hinder the dissemination and implementation of new knowledge related to pain assessment and management should be identified.**

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**APPENDIX A****Letters of permission to use and adapt questionnaires:**

Dalton, J. A.

Hoyt, S.

McCaffery, M.

Watt-Watson, J. H.



THE UNIVERSITY OF NORTH CAROLINA  
AT  
CHAPEL HILL

School of Nursing

The University of North Carolina at Chapel Hill  
CB# 7460, Carrington Hall  
Chapel Hill, NC 27599-7460

Dr. Laurel Archer Copp, Dean 919/966-3731  
Dr. Jean Uhl, Associate Dean for Academic Affairs/Director Graduate Studies 919/966-3731  
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Susan F. Pierce, Director of State AHEC Nursing/Coordinator Clinical Facilities 919/966-3731  
Dr. Cynthia Friend, Chairman of Core Studies Dept. 919/966-3681  
Dr. Inge B. Corless, Chairman of Secondary Care Dept. 919/966-4269  
Dr. JoAnn E. Glintenberg, Chairman of Primary Care Dept. 919/966-4332  
Dr. Sandra G. Funk, Director of Research Support Center 919/966-3420

November 6, 1990

Rev Bradshaw

Western Australia 6220

Dear Ms. Bradshaw:

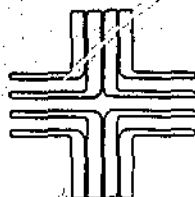
Thank you for your letter of September 27, 1990 regarding my questionnaire, "Nurses' perceptions of their pain assessment skills, pain management practices, and attitudes toward pain." I am enclosing a copy of the questionnaire, which you have my permission to use in part or as a whole. Content and face validity were determined by individuals with expertise in pain assessment and questionnaire development; no data on reliability are currently available. If you use it in research, please reference it appropriately. I would be interested in receiving a copy of your study when it is completed.

Please contact me by phone or mail if I can be of any additional assistance.  
Good luck!

Sincerely,

Jo Ann Dalton, EdD, RN  
Associate Professor

JAD/at



**UCSD**  
**MEDICAL CENTER**  
University of California, San Diego  
Medical Center  
225 Dickinson Street  
San Diego, CA 92103-1990

April 15, 1991

Bev Bradshaw

Dear Bev:

Thank you for your letter and for your interest in pain assessment. You have my permission to incorporate part of the questionnaire in your work provided you give credit to me in the reference section of your paper. Additionally, I believe I gave credit to Margo McCaffrey, RN, MSN in my study and hope you will acknowledge her as well if you use any of her material. In response to your questions about content and face validity - they were not determined for my questionnaire.

If possible, I would like a copy of your completed study. Good luck to you in your educational pursuits.

Sincerely,

K. Sue Hoyt, RN, MN, CEN  
Trauma/SICU Administrative Director  
UCSD Medical Center

**MARGO McCaffery, R.N., M.S., F.A.A.N.**

CONSULTANT IN THE NURSING CARE OF PEOPLE WITH PAIN

1458 BERKELEY STREET, APT. 1

SANTA MONICA, CALIFORNIA 90404

913-828-7251

Fax No.: (213) 453-1261

May 11, 1991

Ms. Bev Bradshaw

Dear Bev:

Good to hear from you again. You have my permission to use the 20 true/false questions (date 1986) and the tools on pages 21, 22, 27, and 30 of McCaffery and Beebe's Pain: Clinical Manual for Nursing Practice. The book gives permission to duplicate these and use them in clinical practice. I suspect that covers you for now. However, if the pages from the book are to be published in an article or chapter, you will need to obtain permission from the publisher of the book:

Ms. Anastasia Broderick  
Permissions Manager  
Mosby/Times Mirror  
11830 Westline Industrial Dr.  
St. Louis, MO 63146  
Fax : 314-432-1380

I am enclosing a revised edition (1991) of the test questions, which you also have my permission to use. Further, I am enclosing a page from my publications to alert you to studies I have done that are similar to your proposal. Betty Ferrell and I are very interested in the topic you plan to research. I'm delighted that you have chosen to pursue this area.

Please share your results with me.

Sincerely,

Margo McCaffery





## Faculty of Nursing

University of Toronto

May 13, 1991

Bev. Bradshaw RN

Dear Bev:

Please feel free to use the questionnaire from the study "Nurses' knowledge of pain issues: A survey". I would appreciate your sharing any results with me.

Enclosed are the published article with reliability and validity data, the questionnaire and the marking scheme. If you have questions, please feel free to write.

Best wishes.

Yours sincerely,

^

Judith H. Watt-Watson

**APPENDIX B**

**Cover letter and consent**

**Questionnaire (Pretest and Follow-up test)**

**Demographic data collection tool**

**Abbreviated questionnaire (Posttest)**

Dear Fellow Nurse,

I am a Masters Student at Edith Cowan University doing research on nurses' knowledge regarding pain assessment and management. Would you be willing to answer a questionnaire designed to identify the knowledge base of nurses in relation to pain assessment, analgesic administration and alternative methods of pain control?

In this study you are asked to complete a questionnaire prior to, on completion of, and two weeks after the information day on pain assessment and management.

Information gained from this pain assessment and management information day should benefit you in your vital role of assisting patients in relieving pain:

It is important for this research that each questionnaire be completed, to determine the advantages that information about pain assessment and management have in improving nurses' knowledge.

Your response to this questionnaire will be kept strictly confidential. Nurses responses will be coded for statistical analysis and original questionnaires will be securely locked in a filing cabinet separate to the data. When the results of this questionnaire are written up, group data only will be reported. No individual data will be reported. When the research has been completed, all questionnaires will be destroyed.

Any questions concerning this project can be directed to Bev Bradshaw - Investigator - PO Box 140, Harvey WA 6220. Phone: (097) 291531. You may withdraw from this study at any time without penalty.

I (the participant) have read the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, realising I may withdraw at any time.

I agree that the research data gathered for this study may be published provided my name is not used.

-----  
Participant

Date

Investigator

Date

Thank you

BEV BRADSHAW

PAIN ASSESSMENT AND MANAGEMENT

The following questions are designed to find out more about nurses' knowledge of pain assessment, analgesic administration and alternative methods of pain control when caring for patients with pain. This questionnaire is not an evaluation of your nursing care, but has been constructed to extend my knowledge of what physical assessment skills and pain management techniques are being used by nurses, and the effectiveness of education on increasing the knowledge of nurses in relation to the above skills.

**DEFINITION**

1. How would you define pain? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PLEASE TICK ONE OF THE FOLLOWING BOXES.

**LOCATION**

2. In assessing your patient's pain, do you ask the patient to point out or trace the area of pain?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**QUALITY**

3. Do you have the patient describe their pain in their own words (whenever possible)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**INTENSITY**

4. Do you ask the patient to rate the pain?
- |                |                          |
|----------------|--------------------------|
| YES            | <input type="checkbox"/> |
| GO TO QUESTION |                          |
| NO             | <input type="checkbox"/> |
| GO TO QUESTION |                          |
| SOMETIMES      | <input type="checkbox"/> |
| GO TO QUESTION |                          |
- a. By using a scale of 0 to 10 (10 being the worst)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
- b. By degree (hurts a "little" to "really" hurts)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
- c. In relation to or compared to something (how is it today vs. yesterday)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**ONSET**

5. Do you ask the patient when their pain began or started?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**DURATION**

6. Do you ask the patient how long they have had the pain or how long the pain has lasted?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**VARIATIONS**

7. Do you ask the frequency of the pain (or the number of times it occurs)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
8. Do you routinely ask the time of day the pain occurs?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**PATIENT'S PERCEPTION OF PAIN**

9. What causes or brings on the pain? Do you ask this question? (It may be in relation to emotions, activity etc.)
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
10. Do you ask what makes the pain better (relieves or controls it)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
11. Do you ask what makes the pain worse (aggravates or increases it)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
12. Do you assess symptoms associated with the pain (accompanying symptoms such as nausea, sweating, blurred vision, etc.)?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
13. Do you ask the patient how they express their pain? (facial expression, grimacing, body posture, lie still, moan).
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |

**MISCELLANEOUS**

14. If you are administering medication for pain, do you usually awaken your patient to give analgesics?
- |           |                          |
|-----------|--------------------------|
| YES       | <input type="checkbox"/> |
| NO        | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
15. How frequently do you ask patients if they want to try interventions in addition to medication to control pain?
- |           |                          |
|-----------|--------------------------|
| OFTEN     | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
| NEVER     | <input type="checkbox"/> |
16. How frequently do you assess the meaning of the pain to your patient, i.e. what they think is causing the pain?
- |           |                          |
|-----------|--------------------------|
| OFTEN     | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
| NEVER     | <input type="checkbox"/> |
17. How frequently do you assess the patient's previous experience with pain?
- |           |                          |
|-----------|--------------------------|
| OFTEN     | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
| NEVER     | <input type="checkbox"/> |
18. How frequently do you ask the patient what has helped their pain in the past?
- |           |                          |
|-----------|--------------------------|
| OFTEN     | <input type="checkbox"/> |
| SOMETIMES | <input type="checkbox"/> |
| NEVER     | <input type="checkbox"/> |

19. If you do assess most of these parameters in your patient with pain, do you record or document this information (patient record, chart, nurses' notes, etc.)? YES ☐  
NO ☐  
SOMETIMES ☐

20. Which types of patients are given a more thorough assessment?

a. Those with acute pain? ☐

b. Those with chronic pain? ☐

c. A specific type of pain (cardiac vs. cancer)? ☐

d. Please list the types of patients who receive a thorough assessment:

\_\_\_\_\_  
\_\_\_\_\_

21. Please list any prejudices or misconceptions that hamper your assessment of the patient (may be related to culture, socio-economic status, appearance of patient, age of patient, etc.)?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

22. How are you assessing patients' pain in your clinical setting?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TRUE - FALSE QUESTIONS. PLEASE TICK TRUE OR FALSE.

GENERAL

23. Assessment of pain by the health team is more valid than the patient's assessment. TRUE ☐  
FALSE ☐

- |     |  |               |  |
|-----|--|---------------|--|
| 24. | Nurses usually are not required to keep an hourly flow sheet on the safety and effectiveness of the initial dose of parenteral narcotics for the individual patient. | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 25. | Observable changes in vital signs must be relied upon to verify a patient's statement that they have severe pain.  | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 26. | If the patient can be distracted from their pain this usually means they do <u>not</u> have as high an intensity of pain as they indicate.                           | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 27. | Patients may sleep in spite of severe pain.  | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 28. | Comparable stimuli in different people produce the same intensity of pain.   | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 29. | Most health care professionals are taught very little about pain assessment and pain relief.   | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |

#### OTHER RELIEF MEASURES

- |     |  |               |  |
|-----|--|---------------|--|
| 30. | Cutaneous stimulation techniques that may reduce the intensity of pain include menthol gels and cold packs.      | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 31. | Cold often provides faster and longer pain relief than heat.   | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 32. | When cutaneous stimulation such as cold or massage is used for pain relief, it must be used in the area of pain. | TRUE<br>FALSE | <input type="checkbox"/><br><input type="checkbox"/> |
| 33. | What pain relieving techniques have you used (or are familiar with) other than medication?                       |               |  |

I have used \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I am familiar with \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## ANALGESIA

- |   |       |                          |
|---|-------|--------------------------|
| 34. Giving aspirin or panadol along with narcotics is a logical method of increasing pain relief.   | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 35. Research shows that promethazine (Phenergan) is a reliable potentiator of narcotic analgesia.   | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 36. Sleep or sedation can be equated with pain relief.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 37. Beyond a certain dosage of morphine, increases in dosage will <u>not</u> increase pain relief.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 38. The potency of the pain relief measure selected for the patient should be determined on the basis of known physical stimuli rather than on the basis of the patient's report of pain intensity. | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 39. The patient with pain should be encouraged to endure as much pain as possible before resorting to a pain relief measure.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 40. Oral morphine is as effective as parenteral morphine with equianalgesia doses.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |

## PLEASE FILL IN THE BLANKS

41. What percentage of patients with organic pain become addicted to narcotics while in hospital?
- 

42. What is the duration of action for:

- |              |       |       |
|--------------|-------|-------|
| a. Morphine  | _____ | hours |
| b. Pethidine | _____ | hours |
| c. Codeine   | _____ | hours |
| d. Omnopon   | _____ | hours |



PLEASE TICK THE OPTION(S) WHICH YOU THINK ARE CORRECT. YOU MAY CHOOSE MORE THAN ONE OPTION.

43. Which drug(s) at equianalgesic doses has the most side effects, e.g. addiction, respiratory depression?
- a. morphine ☐
  - b. pethidine ☐
  - c. codeine. ☐
44. What is the drug of choice for terminally ill patients?
- a. pethidine ☐
  - b. morphine ☐
  - c. codeine. ☐
45. What is the purpose of the PRN order in giving pain medications?
- a. prevent tolerance and addiction ☐
  - b. decrease respiratory depression ☐
  - c. decrease overdose liability ☐
  - d. for breakthrough pain when titrating narcotics. ☐
46. Placebos can be given to patients:
- a. to see if the pain is real ☐
  - b. who require more medication than necessary ☐
  - c. who are "difficult" and always complaining that treatments don't work ☐
  - d. in controlled research where the patient is told about possibility of a placebo. ☐

#### GENERAL

47. A patient experiencing chronic pain may demonstrate changes in:
- a. pulse, respiration, blood pressure ☐
  - b. mood status ☐
  - c. activity level ☐
  - d. sleep and eating habits. ☐

48. Patients in hospital should usually expect to tolerate:

- a. no pain
- b. minimal pain
- c. moderate pain
- d. severe pain.

☐  
☐  
☐  
☐

49. Who is responsible (accountable) for relieving the pain?

- a. Physician
- b. Nurse
- c. Patient
- d. All
- e. None
- f. Other \_\_\_\_\_

☐  
☐  
☐  
☐  
☐  
☐

50. What is the most difficult problem(s) for you in nursing a patient in pain, either acute or chronic?

Patients experiencing acute pain \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Patients experiencing chronic pain \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

51. Is there anything else you would like to say on the subject of pain?

\_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_

1. Please state your age in years. \_\_\_\_\_ years
2. Please state the number of years nursing experience that you have had. \_\_\_\_\_ years

FOR EACH OF THE FOLLOWING QUESTIONS, PLEASE TICK THE APPROPRIATE BOX  
(TICK ONE BOX ONLY)

3. Place of Work:

Country ☐

City ☐

4. Sex:

Male ☐

Female ☐

5. What is your work status?

Full Time ☐

Part Time ☐

Not Employed ☐

6. What is your current employment?

Medial ☐

Surgical ☐

Maternity ☐

Paediatrics ☐

Intensive Care ☐

Emergency Department ☐

Theatre ☐

Gerontology ☐

Community Health ☐

Silver Chain ☐

Other (please specify) \_\_\_\_\_

7. What is the highest level of nursing you have reached?

Enrolled Nurse  
RN Level One

☐  
☐

Clinical RN Level Two  
Staff Development Level Two

☐  
☐

Nurse Manager  
Clinical Nurse Specialist

☐  
☐

Area Manager Level Two  
Staff Development Level Three

☐  
☐

Other (please specify) \_\_\_\_\_

8. Was your initial qualification:  
a) hospital based certificate (EN)?

YES ☐ GO TO  
NO ☐ QUESTION 11

- b) hospital based diploma?

YES ☐ GO TO  
NO ☐ QUESTION 9

- c) tertiary based diploma?

YES ☐ GO TO NEXT  
NO ☐ QUESTION

9. What degree(s) have you received?  
(Please tick as many boxes as appropriate).

☐ Bachelor Degree in  
Nursing  
☐ Bachelor Degree in  
other (please specify)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ Masters in Nursing  
☐ Masters in Other  
(please specify)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Have you previously participated  
in an education program on pain  
management?

YES ☐ GO TO NEXT  
QUESTION  
NO ☐

11. How long is it since you last participated in an education program on pain management?

less than one month

☐

more than one month and less than six months

☐

more than six months and less than twelve months

☐

more than twelve months

☐

Thank you for completing this questionnaire.

PAIN ASSESSMENT AND MANAGEMENT

This is an abbreviated form of the original questionnaire.

1. How would you define pain? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TRUE - FALSE QUESTIONS. PLEASE TICK TRUE OR FALSE.

- |   |       |                          |
|---|-------|--------------------------|
| 23. Assessment of pain by the health team is more valid than the patient's assessment.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 24. Nurses usually are not required to keep an hourly flow sheet on the safety and effectiveness of the initial dose on potential narcotics for the individual patient. | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 25. Observable changes in vital signs must be relied upon to verify a patient's statement that they have severe pain.   | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 26. If that patient can be distracted from their pain this usually means they do <u>not</u> have as high an intensity of pain as they indicate.                         | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 27. Patients may sleep in spite of severe pain.   | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 28. Comparable stimuli in different people produce the same intensity of pain.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |
| 29. Most health care professionals are taught very little about pain assessment and pain relief.  | TRUE  | <input type="checkbox"/> |
|   | FALSE | <input type="checkbox"/> |

OTHER RELIEF MEASURES

- |  |       |                          |
|--|-------|--------------------------|
| 30. Cutaneous stimulation techniques that may reduce the intensity of pain include menthol gels and cold packs.      | TRUE  | <input type="checkbox"/> |
|  | FALSE | <input type="checkbox"/> |
| 31. Cold often provides faster and longer pain relief than heat.   | TRUE  | <input type="checkbox"/> |
|  | FALSE | <input type="checkbox"/> |
| 32. When cutaneous stimulation such as cold or massage is used for pain relief, it must be used in the area of pain. | TRUE  | <input type="checkbox"/> |
|  | FALSE | <input type="checkbox"/> |

## ANALGESIA

- |     |   |       |                          |
|-----|---|-------|--------------------------|
| 34. | Giving aspirin or panadol along with narcotics is a logical method of increasing pain relief.   | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |
| 35. | Research shows that promethazine (Phenergan) is a reliable potentiator of narcotic analgesia.   | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |
| 36. | Sleep or sedation can be equated with pain relief.  | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |
| 37. | Beyond a certain dosage of morphine, increases in dosage will <u>not</u> increase pain relief.  | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |
| 38. | The potency of the pain relief measure selected for the patient should be determined on the basis of known physical stimuli rather than on the basis of the patient's report of pain intensity. | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |
| 39. | The patient with pain should be encouraged to endure as much pain as possible before resorting to a pain relief measure.  | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |
| 40. | Oral morphine is as effective as parenteral morphine with equinalgesia doses.   | TRUE  | <input type="checkbox"/> |
|     |   | FALSE | <input type="checkbox"/> |

## PLEASE FILL IN THE BLANKS

41. What percentage of patients with organic pain become addicted to narcotics while in hospital?
- \_\_\_\_\_
42. What is the duration of action for:
- |    |           |       |       |
|----|-----------|-------|-------|
| a. | Morphine  | _____ | hours |
| b. | Pethidine | _____ | hours |
| c. | Codeine   | _____ | hours |
| d. | Omnopon   | _____ | hours |

PLEASE TICK THE OPTION(S) WHICH YOU THINK ARE CORRECT. YOU MAY CHOOSE MORE THAN ONE OPTION.

43. Which drug(s) at equianalgesic doses has the most side effects, e.g. addiction, respiratory depression?
- a. morphine ☐
  - b. pethidine ☐
  - c. codeine. ☐
44. What is the drug of choice for terminally ill patients?
- a. pethidine ☐
  - b. morphine ☐
  - c. codeine. ☐
45. What is the purpose of the PRN order in giving pain medications?
- a. prevent tolerance and addiction ☐
  - b. decrease respiratory depression ☐
  - c. decrease overdose liability ☐
  - d. for breakthrough pain when titrating narcotics. ☐
46. Placebos can be given to patients:
- a. to see if the pain is real ☐
  - b. who require more medication than necessary ☐
  - c. who are "difficult" and always complaining that treatments don't work ☐
  - d. in controlled research where the patient is told about possibility of a placebo. ☐

#### GENERAL

47. A patient experiencing chronic pain may demonstrate changes in:
- a. pulse, respiration, blood pressure ☐
  - b. mood status ☐
  - c. activity level ☐
  - d. sleep and eating habits. ☐



48. Patients in hospital should usually expect to tolerate:

- a. no pain
- b. minimal pain
- c. moderate pain
- d. severe pain.

☐  
☐  
☐  
☐

49. Who is responsible (accountable) for relieving the pain?

- a. Physician
- b. Nurse
- c. Patient
- d. All
- e. None
- f. Other \_\_\_\_\_

☐  
☐  
☐  
☐  
☐  
☐

51. Is there anything else you would like to say on the subject of pain?

---

---

Thank you for completing this questionnaire.



## **APPENDIX C**

### **Pain Assessment and Management - Workshop Program**

#### **Workshop - objectives and overview**

## PAIN ASSESSMENT & MANAGEMENT - WORKSHOP

### GERALDTON & BUNBURY

**Date:**

**Time:** 8.00am - 4.30pm

**Venue:** Lecture Theatre  
Bunbury Regional Hospital

**8.00-8.35** Registration - Coffee

Overview of the research and pretest

**8.35-8.45** Housekeeping

**8.45- 10.15** McCaffery's Definition of Pain

The physiology of pain: Gate Control Theory

**10.15-10.30** Morning tea

**10.30-12.30** Misconceptions and prejudices that hamper pain  
assessment and management

Pain Classification

Pain Assessment

**12.30-13.15** Lunch

**13.15-15.00** Misconceptions related to narcotic analgesia

Equianalgesia, titration, and potentiators

Principles of non-narcotic and narcotic analgesia

**15.00-15.15** Afternoon tea

**15.15-16.15** Alternative/noninvasive methods of pain control

**16.15-16.30** Posttest

## **WORKSHOP**

This appendix provides an overview of the workshop presented to Western Australian country nurses who were the subjects in this study. The aim of the workshop was to positively influence nurses' knowledge of pain assessment, analgesic administration and alternative methods of pain control. The subject matter in the workshop was related to the items on the questionnaire.

The objectives for the workshop were as follows: Upon completion of the study day participants will be able to:

1. State McCaffery's definition of pain
2. Demonstrate an understanding of the gate control theory of pain
3. Recognise the misconceptions and prejudices that hamper assessment of pain
4. Classify pain under the two main categories, chronic and acute
5. Identify methods of assessing patients' pain
6. Identify the misconceptions related to narcotic analgesia
7. Discuss and identify the use of the terms equianalgesic, titration, and potentiators
8. Demonstrate knowledge of the principles of non-narcotic and narcotic analgesia
9. Demonstrate knowledge of alternative methods of pain control for brief and/or prolonged pain.

Objectives 1 to 5 were dealt with in morning sessions and objectives 6 to 9 were dealt with in the afternoon sessions of the workshop.

Lisson stated that: "Few things a nurse does are more important than alleviating pain" (p. 649). There are three important questions that serve as a springboard when teaching about pain management (Kanner, 1991). They are: "How do we assess a patient's pain? How do we select a treatment modality? How do we deliver the care most effectively?" (p. 340)

In the literature there are a variety of definitions and several attempts to describe the complex phenomenon of pain. Pain is a subjective experience not easily defined by others and it is also difficult to measure. Thus, it is important to stress that pain defies absolute definition (Sofaer, 1985). Therefore, it is vital that nurses working with patients in pain believe McCaffery's definition because the experts on pain are the pain sufferer's themselves (McCaffery & Beebe, 1989).

Pain is a complex phenomenon that often leaves people at a loss for words when they try to describe it to another person. There is no way that a person can fully explain the multidimensional aspects of pain. However, a theory that allows for the integration of both the physiological and psychological dimensions of the phenomena of pain is the gate control theory (Bean, 1988). This theory underpinned the workshop because it recognises many varieties of pain and its associated qualities and dimensions, while providing a plausible explanation for clinical pain that incorporates known facts about the

nervous system (Melzack & Wall, 1988). It provides a basis for the many mind-body interventions used in nursing practice, as well as indicating that a comparable stimulus in different people may or may not be felt as painful (McCaffery & Beebe, 1989). Also, the gate control theory is a useful tool when educating patients about their pain and for explaining how pain control methods work to relieve the pain.

Accurate and ongoing assessment is critical for the effective and efficient management of the patient in pain. To assist nurses comprehend this complex clinical issue it is important that they understand the classifications of pain. It is generally classified as either acute or chronic. The important distinction between the two is that acute pain is usually caused by an illness or injury, it is sudden and usually brief whereas chronic pain persists for six months or more, often without a cause (McCaffery & Beebe, 1989). People with chronic pain are often stereotyped therefore it must be remembered that labels are a guide for understanding pain and care must be taken not to make the person fit the label (Ots & Gardner, 1990).

Nurses and patients assess pain differently (Cohen, 1980; Dudley & Holm, 1984) and patients have many different ways of communicating that they are in pain. There are many methods of assessing pain and a variety of assessment tools are available for this purpose. Assessment tools from McCaffery and Beebe (1989) were incorporated into the workshop. These tools are practical in any clinical setting; they are easy to adapt to meet individual patient needs; and they are less than or one page in length. Also,

permission has been granted by the authors for the tools to be duplicated for use in clinical practice. The tools used were: pain assessment tool; vertical visual analogue scale; flow sheet-pain; and daily diary for use with patients. Nurses were informed that documenting their pain findings is vital, so that other health professionals can provide continuous quality patient care.

During the workshop, emphasis was placed on the unique position of the nurse as they, more than any other health team member, more frequently communicate and interact with patients, therefore, they have a central role in the assessment and management of pain (Bean, 1988; McCaffery & Beebe, 1989). A systematic assessment of the patient in pain provides information for the formulation of a care plan, however this also requires that nurses be knowledgeable about pain management (Bean, 1988). The afternoon sessions of the workshop hinged on the following two objectives that are central to achieving pain control by using drug therapy (Marks, 1985, in Goodinson, 1985). The two objectives are:

1. to provide that degree of relief which will allow pain-free sleep, rest and movement without unwanted side-effects, [and]
2. to administer drugs in such a way that the pain does not break through before the next dose is given (p. 395).

The literature indicates that patients in pain often do not receive adequate analgesia (Romyn, 1992; Sofaer, 1985; Watt-Watson, 1987). Nurses have a responsibility to control pain, therefore they must not allow the undertreatment of pain and inappropriate prescribing to continue; they must articulate their suggestions for pain control to members of the health care team (McCaffery & Beebe, 1989). There are many myths and misconceptions about the use of narcotic analgesics that prevent nurses (and other health professionals) from using these drugs to their fullest potential. These myths and misconceptions are often well-entrenched in a person's thinking and have the ability to provoke emotional reactions, therefore it is essential that nurses recognise and understand them so that they do not have a detrimental effect on patient care (Bean, 1988; McCaffery & Beebe, 1989). Pain management should focus on the control of, and where possible the complete relief from pain. To assist nurses to achieve this goal they were taught about equianalgesic doses, how to titrate narcotics and also they discussed the questionable use of potentiators (McCaffery & Beebe, 1989).

To effectively manage pain, McCaffery and Beebe (1989) encourage the use of analgesia and alternative methods of pain control. Within nursing there has been an increase in awareness of alternative methods for controlling pain (Bean, 1988; Beare & Myers, 1990; Dalton, 1989; McCaffery & Beebe, 1989) and, according to Beare and Myers (1990), they have many advantages when used for this purpose. These advantages are that: most are inexpensive; many are easy to perform; they have low risk and few side effects; many do not require a doctor's order (Beare & Myers, 1990); and they may be used in



conjunction with analgesics. Probably the best advantage of alternative therapies is that these techniques allow the patient to have some control over the treatment of his/her pain (Beare & Myers, 1990).

Nurses attending the workshop were informed about the following alternative methods of pain control that they could use in day-to-day nursing practice. They were: cold and heat; transcutaneous electrical nerve stimulation (TENS); massage; guided imagery; therapeutic touch; relaxation; and distraction. Nurses were advised to not just follow orders, but to use their skills and knowledge to meet patients' needs. There is a challenge and satisfaction associated with developing skills in alternative methods of pain control that will assist patients to be pain-free.

The management of pain is an important issue in view of the prevalence of pain and the reports in the literature that nurses are not assessing and managing it in a satisfactory manner. Murray (1984) purported that it was obvious that change in pain management is necessary. This change involves all nurses involved in direct patient care, however, the responsibility for pain management involves all levels within nursing including management and education (Murray, 1984).

Bean (1988) stated that "managing the patient with pain can be intriguing and challenging for the nurse who is knowledgeable about pain and its treatment. ... All treatment approaches to pain are based on the assumption that change is possible" (p. 184).

**APPENDIX D**

**First letter to participants**

**Second letter**

**Final letter**

Name

Address

Dear (name of participant)

Thank you for taking the time to complete the previous previous two questionnaires. I would appreciate it, if you could please complete the enclosed questionnaire, the final in the series from the Pain Assessment and Management Workshop held in Bunbury on the 4th and 5th of September. Please place the completed questionnaire in the enclosed self addressed, reply paid envelope, and return it as soon as possible.

The questionnaires will be coded for analysis, and only I will have access to this data. All information you provide will be held in the strictest confidence as the details will be used for statistical purposes only. Also, the information gathered from nurses participating in this study will be grouped to further protect your identity. Your participation is completely voluntary and you have the right to withdraw from this study at any time.

It is important for my research that this questionnaire be completed. This information will assist me to determine the advantages education and information about pain assessment and management may have on improving nurses' knowledge on the subject of pain.

Thank you for your cooperation with the enclosed questionnaire. Thank you for your participation throughout this study.

Yours sincerely

Bev Bradshaw  
PO Box 140  
HARVEY 6220  
1 October, 1991

Telephone 097 291 531 or 097 291 983

encl: questionnaire and self-addressed pre-paid envelope

Reply Paid Hvy 2007  
Bev Bradshaw  
P O Box 140  
HARVEY 6220

Name

Address

Dear (name of participant)

Please accept my sincere thanks for your completion of the last two questionnaires. I'm still hoping to receive the third questionnaire from you, the final in the series from the Pain Assessment and Management Workshop held at Bunbury Regional Hospital on the 5th of September. I know your time is valuable, but the questionnaire should take only twenty minutes of your time.

Could please complete and post the questionnaire this week. If you have mislaid the reply paid envelope, please use the reply paid number and address at the top of this letter. All information you provide will be held in the strictest confidence as the details will be used for statistical purposes only. Also, the information gathered from nurses participating in this study will be grouped to further protect your identity.

Your participation is completely voluntary and you have the right to withdraw from this study at any time. Thank you for your cooperation with this questionnaires, and thank you for participation in this study.

Yours sincerely

Bev Bradshaw  
16 October, 1991

Telephone 097 291 531 or 097 291 983

Name

Address

Dear (name of participant)

I'm still hoping to receive the third questionnaire from you. Just in case the questionnaire has been misplaced, I have enclosed a copy. I would appreciate it if you could please complete and post the questionnaire, in the reply paid envelope supplied, by Friday 8th of November. Completion of the questionnaire should take only twenty minutes of your time.

All information you provide will be held in the strictest confidence as the details will be used for statistical purposes only. Also, the information gathered from all the nurses participating in this study, will be grouped to further protect your individuality. Your participation is completely voluntary and you have the right to withdraw from this study at any time. If you are on holidays or otherwise not available to complete this questionnaire by the above date, I take this opportunity to again thank you for completing the previous two questionnaires.

Thank you for your participation in this study.

Yours sincerely

Bev Bradshaw

Telephone 097 291 531 or 097 291 983

1 November 1991

encl: questionnaire and self-addressed pre-paid envelope